PRELIMINARY MANUAL

D820X

2CH-DIGITAL-RECORDER

VOLUME III

SERVICING

VOLUME I	OPERATING	Order No. 10.27.0580
VOLUME II	DIAGRAMS	Order No. 10.27.0590
DOS-DISK	(not yet available)	Order No. 10.27.0620
VOLUME I and VOLUME II and VOLUME III		Order No. 10.27.0610

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COMMANDS SYSCON-HARDWARE .... SECTION 3
MASTER MONITOR .... SECTION 4
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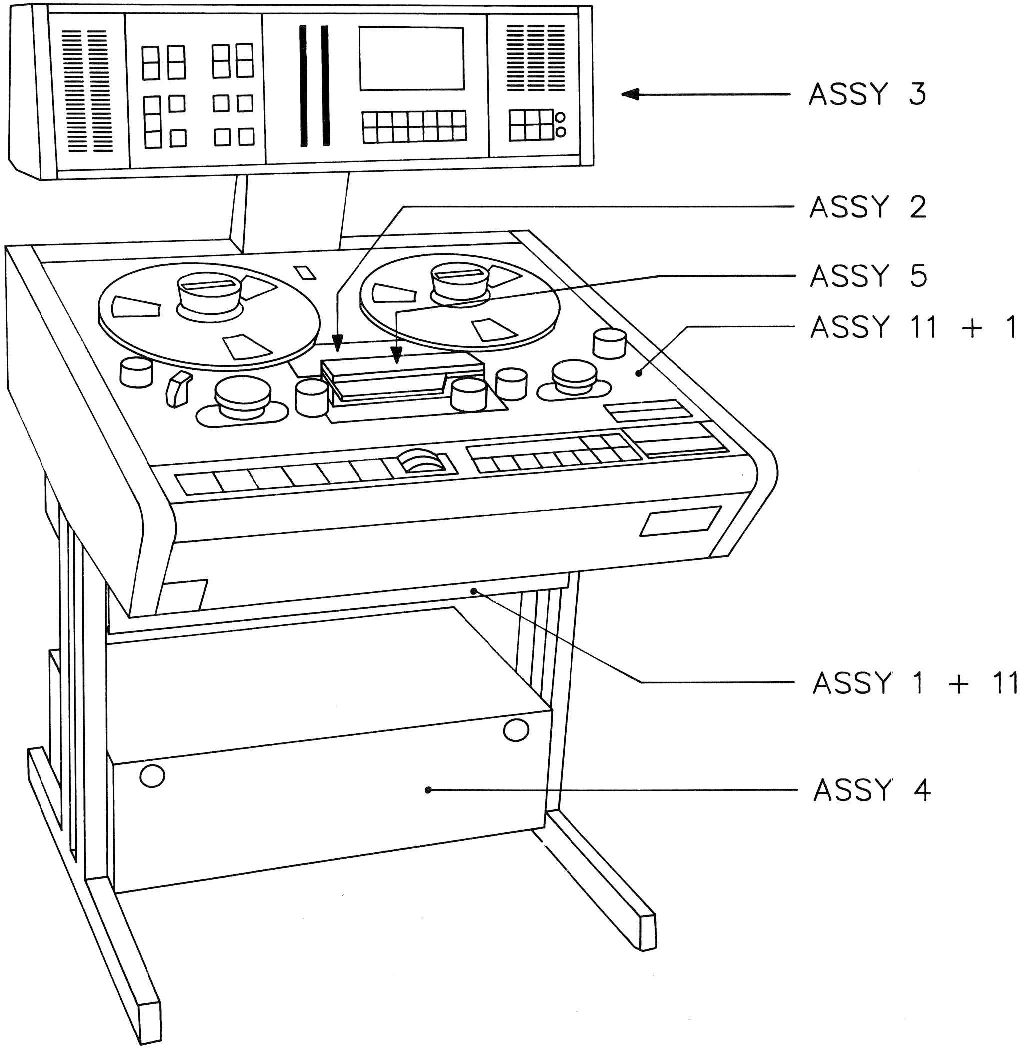
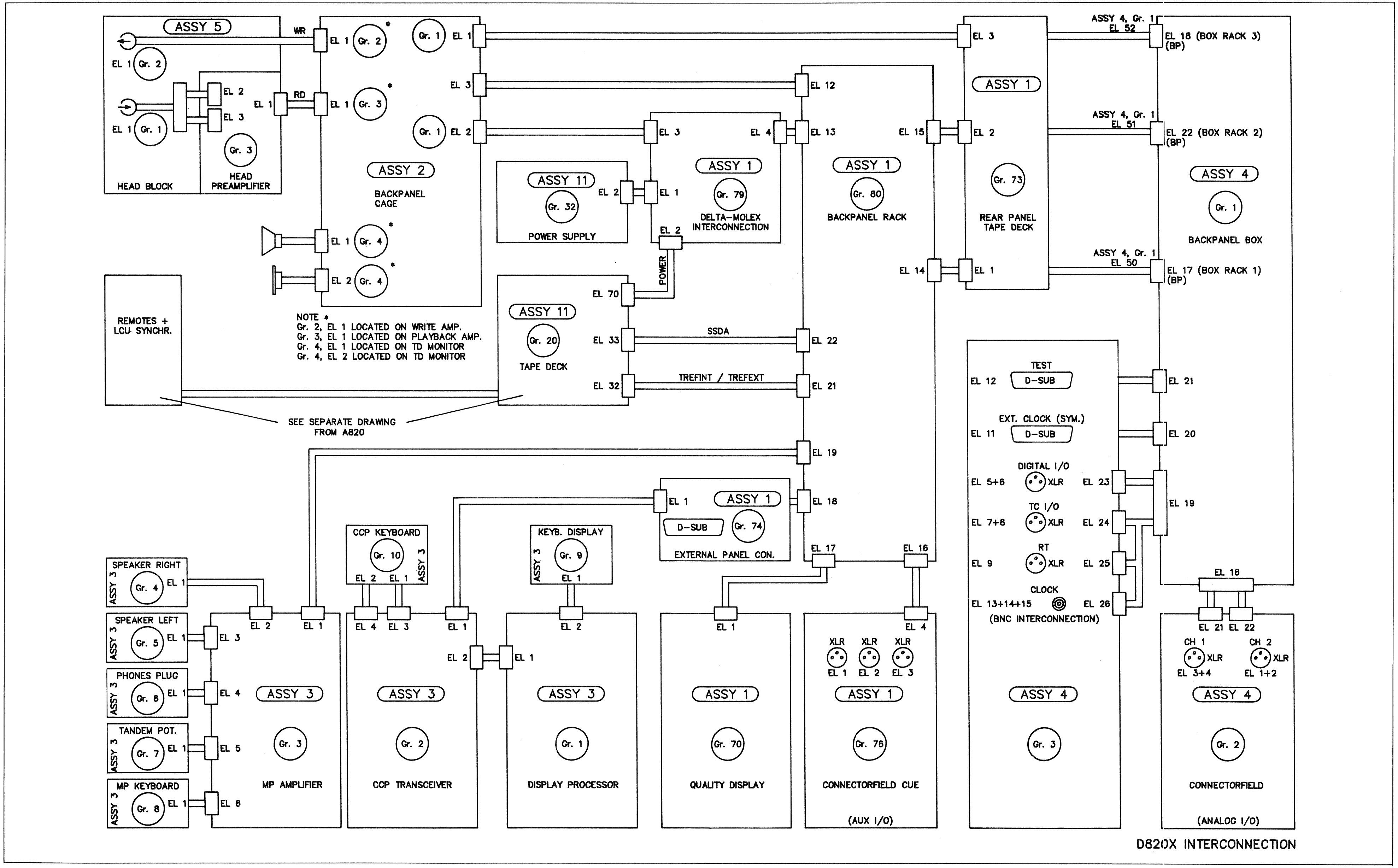
PUBLISHED: 02/87

ASSEMBLY LOCATION

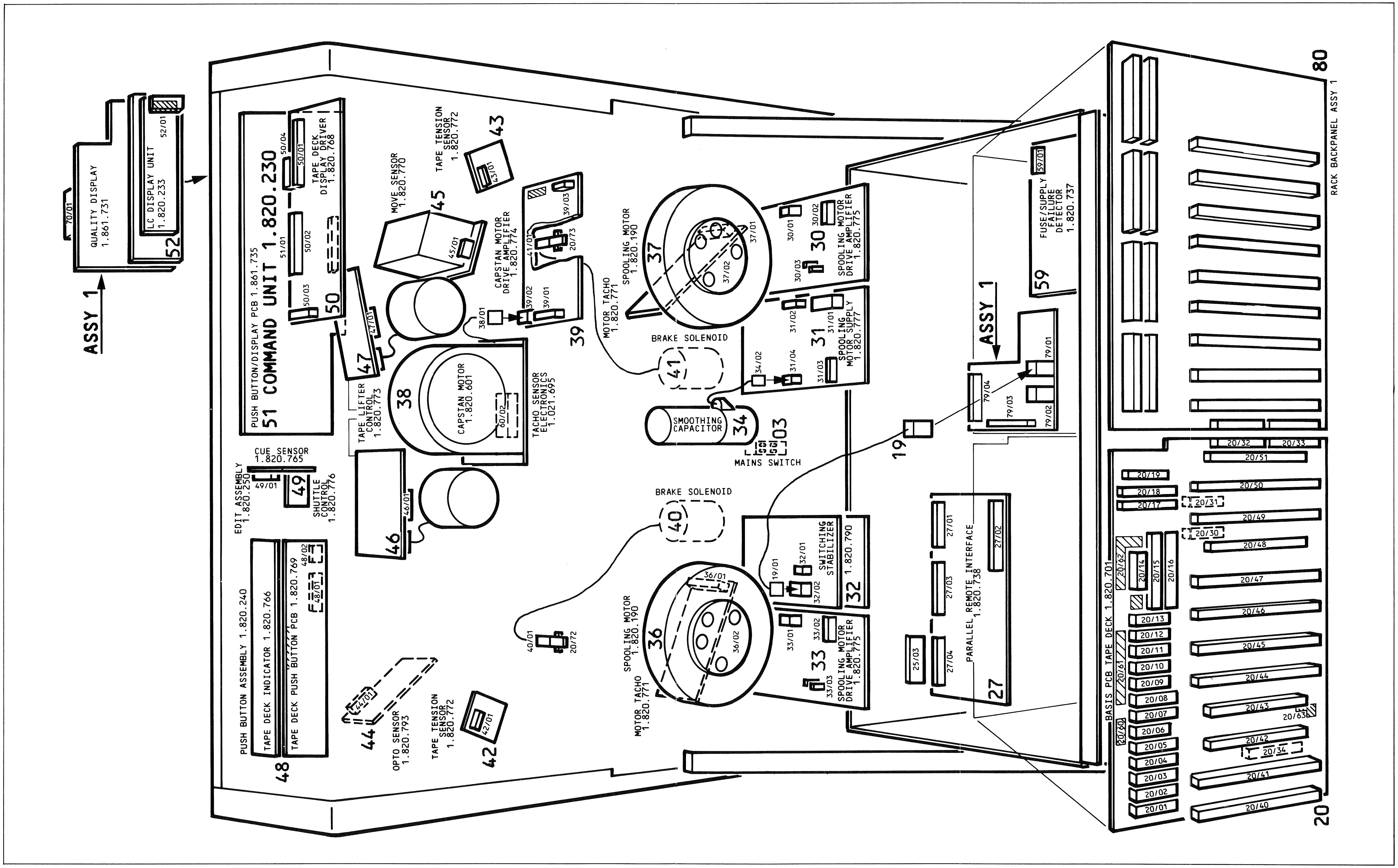

ASSY 3
ASSY 2
ASSY 5
ASSY 11 + 1
ASSY 1 + 11
ASSY 4

INTERCONNECTION

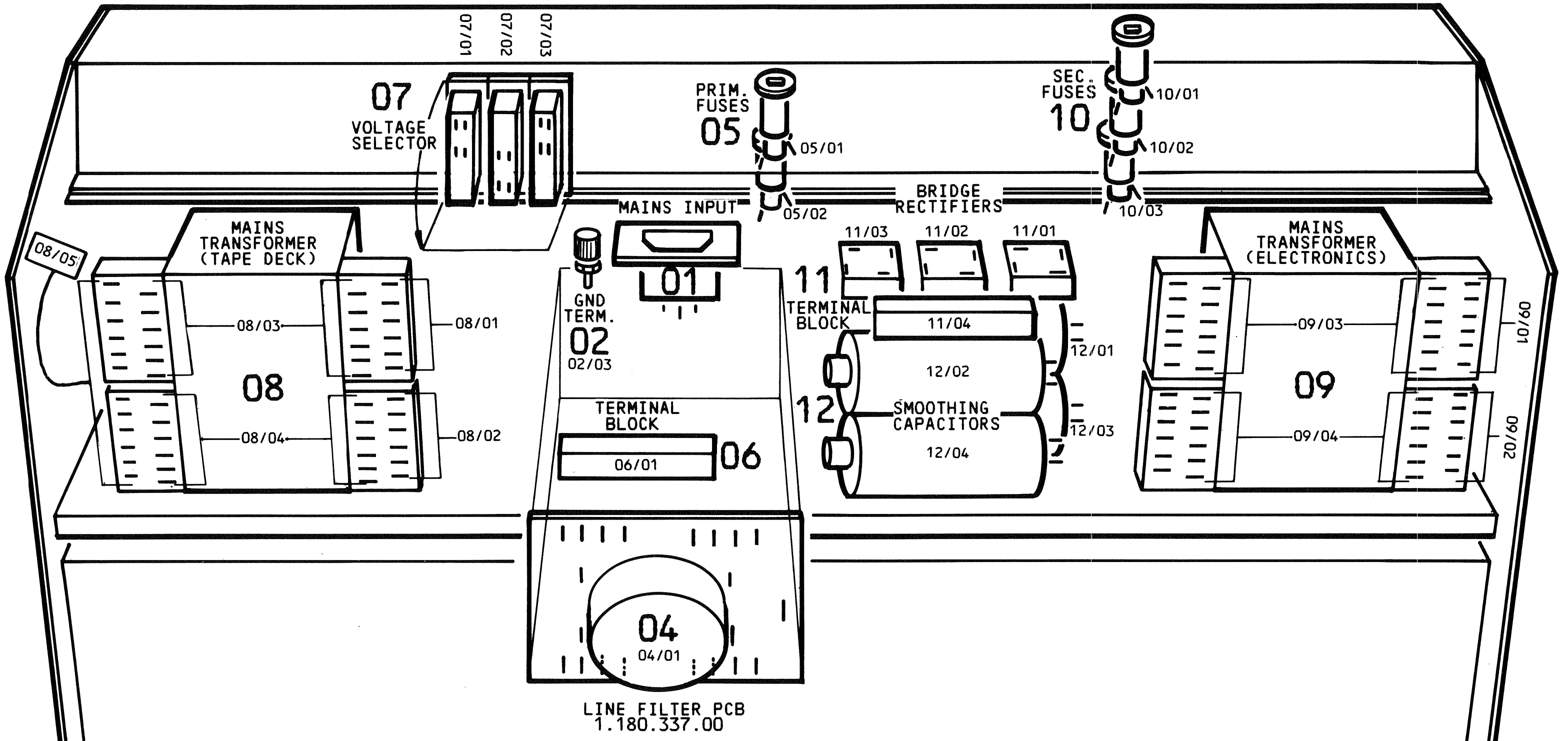

ASSY 5
EL 1 Gr. 2
EL 1 Gr. 1
EL 2
EL 3
Gr. 3
HEAD BLOCK
HEAD PREAMPLIFIER
WR
RD
EL 1
EL 1 Gr. 2 *
EL 1 Gr. 3 *
Gr. 1 EL 1
EL 3
Gr. 1 EL 2
ASSY 2
BACKPANEL CAGE
EL 1 Gr. 4 *
EL 2 Gr. 4 *
NOTE *
Gr. 2, EL 1 LOCATED ON WRITE AMP.
Gr. 3, EL 1 LOCATED ON PLAYBACK AMP.
Gr. 4, EL 1 LOCATED ON TD MONITOR
Gr. 4, EL 2 LOCATED ON TD MONITOR
REMOTES + LCU SYNCHR.
SEE SEPARATE DRAWING FROM A820
ASSY 11
Gr. 32
POWER SUPPLY
EL 2
EL 1
EL 3
EL 4
EL 2
ASSY 1
Gr. 79
DELTA-MOLEX INTERCONNECTION
POWER
EL 70
ASSY 11
Gr. 20
TAPE DECK
EL 33
EL 32
SSDA
TREFINT / TREFEXT
EL 12
EL 13
ASSY 1
Gr. 80
BACKPANEL RACK
EL 22
EL 21
EL 19
EL 18
EL 17
EL 16
EL 15
EL 14
EL 3
ASSY 1
EL 2
Gr. 73
REAR PANEL TAPE DECK
EL 1
ASSY 4, Gr. 1 EL 52
EL 18 (BOX RACK 3) (BP)
ASSY 4, Gr. 1 EL 51
EL 22 (BOX RACK 2) (BP)
ASSY 4, Gr. 1 EL 50
EL 17 (BOX RACK 1) (BP)
ASSY 4
Gr. 1
BACKPANEL BOX
EL 21
EL 20
EL 19
EL 16
TEST
EL 12 D-SUB
EXT. CLOCK (SYM.)
EL 11 D-SUB
DIGITAL I/O
EL 5+6 XLR EL 23
TC I/O
EL 7+8 XLR EL 24
RT
EL 9 XLR EL 25
CLOCK
EL 13+14+15 EL 26
(BNC INTERCONNECTION)
ASSY 4
Gr. 3
EL 1
ASSY 1
D-SUB
Gr. 74
EXTERNAL PANEL CON.
SPEAKER RIGHT
ASSY 3 Gr. 4 EL 1
SPEAKER LEFT
ASSY 3 Gr. 5 EL 1
PHONES PLUG
ASSY 3 Gr. 6 EL 1
TANDEM POT.
ASSY 3 Gr. 7 EL 1
MP KEYBOARD
ASSY 3 Gr. 8 EL 1
EL 2
EL 1
EL 3
EL 4
EL 5
EL 6
ASSY 3
Gr. 3
MP AMPLIFIER
CCP KEYBOARD
Gr. 10
EL 2 EL 1
ASSY 3
EL 4 EL 3 EL 1
EL 2
ASSY 3
Gr. 2
CCP TRANSCEIVER
KEYB. DISPLAY
ASSY 3
Gr. 9
EL 1
EL 2
EL 1
ASSY 3
Gr. 1
DISPLAY PROCESSOR
EL 1
ASSY 1
Gr. 70
QUALITY DISPLAY
EL 4
XLR XLR XLR
EL 1 EL 2 EL 3
ASSY 1
Gr. 76
CONNECTORFIELD CUE
(AUX I/O)
EL 21 EL 22
CH 1 CH 2
XLR XLR
EL 3+4 EL 1+2
ASSY 4
Gr. 2
CONNECTORFIELD
(ANALOG I/O)

D820X INTERCONNECTION

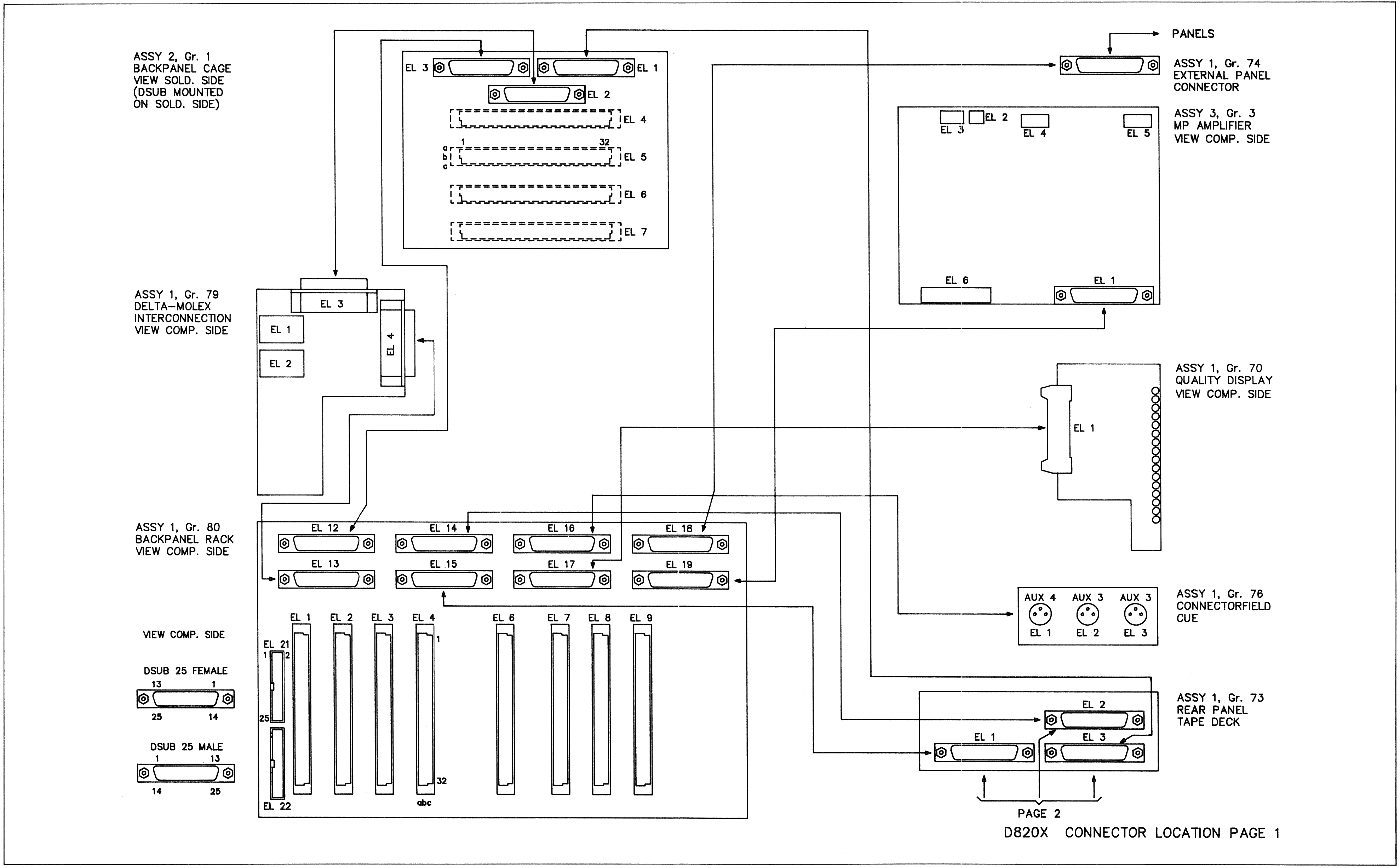
INTERCONNECTION (ALL 1.820.XX = ASSY 11)


ASSY 1
QUALITY DISPLAY 1.861.731
70/01
LC DISPLAY UNIT 1.820.233
52/01
52
PUSH BUTTON/DISPLAY PCB 1.861.735
51 COMMAND UNIT 1.820.230
51/01
50/02
50/03
50/04
50/01
TAPE DECK DISPLAY DRIVER 1.820.768
50
47/01
47
TAPE LIFTER CONTROL 1.820.773
38
CAPSTAN MOTOR 1.820.601
60/02
MOVE SENSOR 1.820.770
45
45/01
TAPE TENSION SENSOR 1.820.772
43
43/01
CAPSTAN MOTOR DRIVE AMPLIFIER 1.820.774
41/01
39/03
20/73
38/01
39/02
39/01
39
TACHO SENSOR ELECTRONICS 1.021.695
MOTOR TACHO 1.820.771
SPOOLING MOTOR 1.820.190
37
37/01
37/02
BRAKE SOLENOID
41
SMOOTHING CAPACITOR
34
03
MAINS SWITCH
34/02
30/01
30/02
30
30/03
SPOOLING MOTOR DRIVE AMPLIFIER 1.820.775
31/02
31/01
31/04
31/03
31
SPOOLING MOTOR SUPPLY 1.820.777
FUSE/SUPPLY FAILURE DETECTOR 1.820.737
59/01
59
ASSY 1
79/01
79/04
79/03
79/02
19
CUE SENSOR 1.820.765
EDIT ASSEMBLY 1.820.250
49/01
49
SHUTTLE CONTROL 1.820.776
46/01
46
PUSH BUTTON ASSEMBLY 1.820.240
TAPE DECK INDICATOR 1.820.766
TAPE DECK PUSH BUTTON PCB 1.820.769
48/02
48/01
48
44/01
44
OPTO SENSOR 1.820.793
TAPE TENSION SENSOR 1.820.772
42/01
42
BRAKE SOLENOID
40
40/01
20/72
SPOOLING MOTOR 1.820.190
MOTOR TACHO 1.820.771
36
36/01
36/02
19/01
32/01
32/02
SWITCHING STABILIZER
32 1.820.790
33/01
33/02
33
33/03
SPOOLING MOTOR DRIVE AMPLIFIER 1.820.775
27/01
27/02
27/03
27/04
25/03
PARALLEL REMOTE INTERFACE 1.820.738
27
80
RACK BACKPANEL ASSY 1
20/32
20/33
20/51
20/19
20/18
20/17
20/31
20/50
20/49
20/30
20/48
20/62
20/14
20/15
20/16
20/47
20/46
20/13
20/12
20/11
20/10
20/09
20/61
20/08
20/07
20/06
20/05
20/04
20/03
20/02
20/01
20/60
20/45
20/44
20/43
20/63
20/42
20/34
20/41
20/40
BASIS PCB TAPE DECK 1.820.701
20

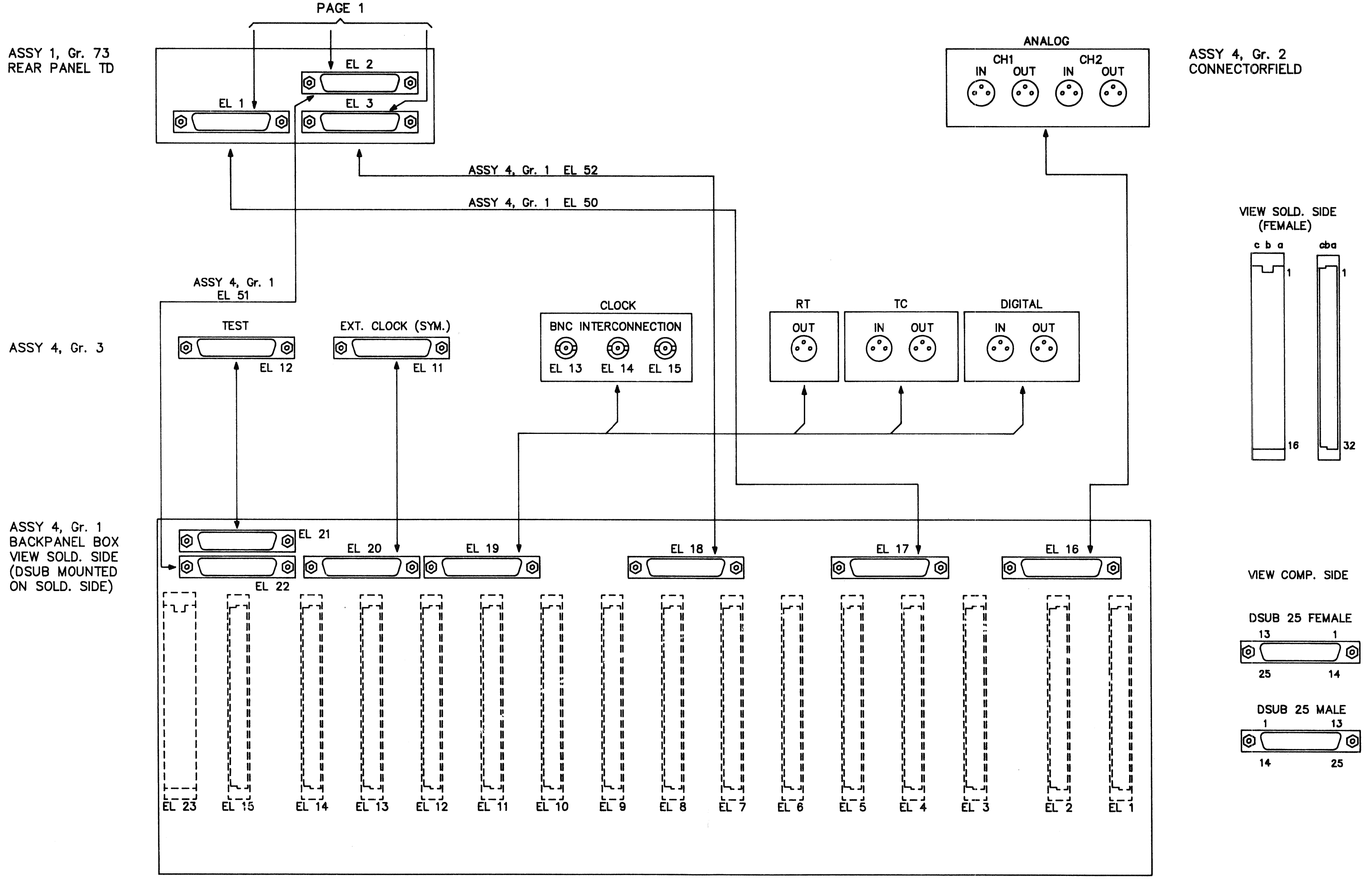
INTERCONNECTION (ALL 1.820.XX = ASSY 11)


07/01
07/02
07/03
07
VOLTAGE SELECTOR
PRIM. FUSES
05
05/01
05/02
SEC. FUSES
10
10/01
10/02
10/03
MAINS INPUT
BRIDGE RECTIFIERS
11/03
11/02
11/01
MAINS TRANSFORMER (TAPE DECK)
08/05
08/03
08/01
08
08/04
08/02
01
GND TERM.
02
02/03
11
TERMINAL BLOCK
11/04
12/01
12/02
12
SMOOTHING CAPACITORS
12/04
12/03
MAINS TRANSFORMER (ELECTRONICS)
09/03
09/01
09
09/04
09/02
TERMINAL BLOCK
06/01
06
04
04/01
LINE FILTER PCB
1.180.337.00

CONNECTOR LOCATION PAGE 1

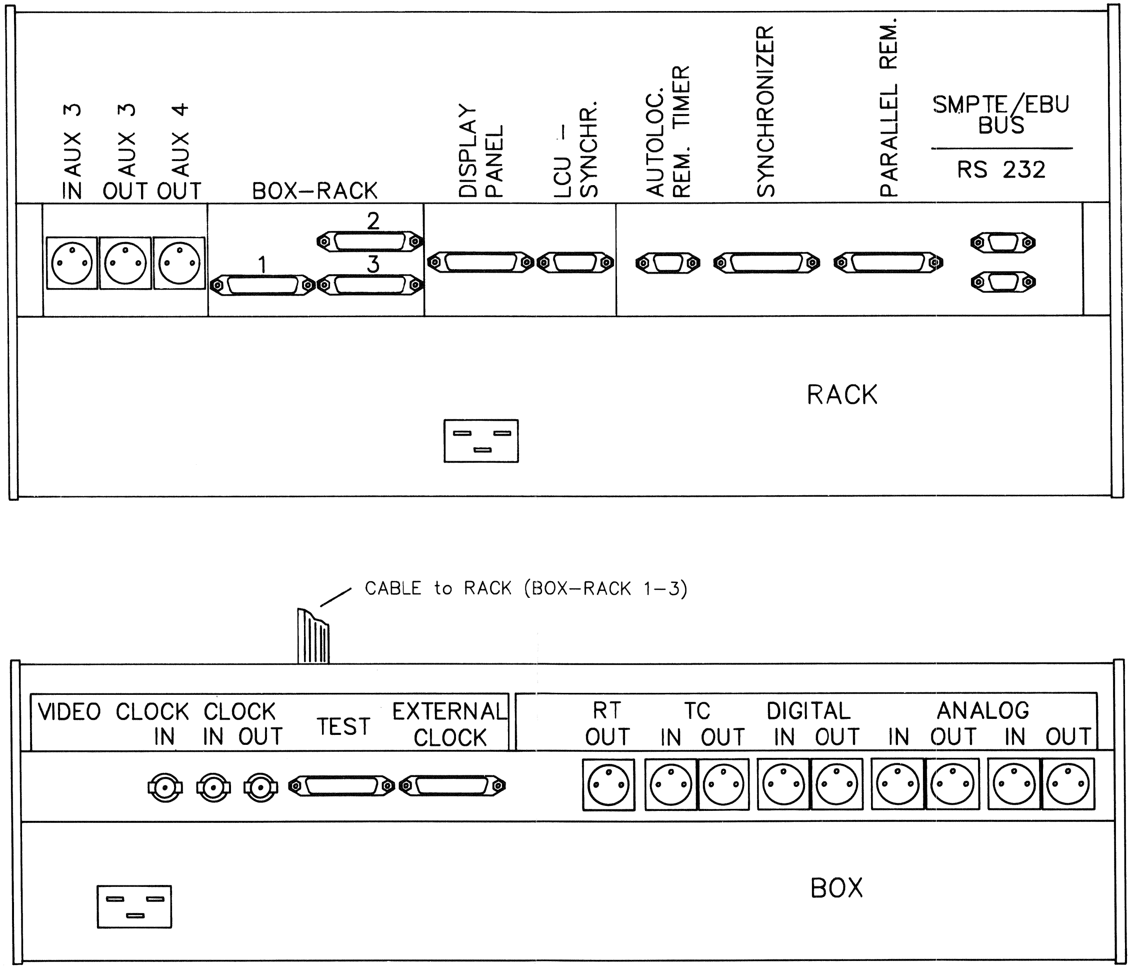

ASSY 2, Gr. 1
BACKPANEL CAGE
VIEW SOLD. SIDE
(DSUB MOUNTED
ON SOLD. SIDE)
EL 3
EL 1
EL 2
EL 4
1
32
a
b
c
EL 5
EL 6
EL 7
PANELS
ASSY 1, Gr. 74
EXTERNAL PANEL
CONNECTOR
ASSY 3, Gr. 3
MP AMPLIFIER
VIEW COMP. SIDE
EL 3
EL 2
EL 4
EL 5
EL 6
EL 1
ASSY 1, Gr. 79
DELTA–MOLEX
INTERCONNECTION
VIEW COMP. SIDE
EL 3
EL 1
EL 2
EL 4
ASSY 1, Gr. 70
QUALITY DISPLAY
VIEW COMP. SIDE
EL 1
ASSY 1, Gr. 80
BACKPANEL RACK
VIEW COMP. SIDE
EL 12
EL 14
EL 16
EL 18
EL 13
EL 15
EL 17
EL 19
AUX 4
AUX 3
AUX 3
EL 1
EL 2
EL 3
ASSY 1, Gr. 76
CONNECTORFIELD
CUE
VIEW COMP. SIDE
DSUB 25 FEMALE
13
1
25
14
DSUB 25 MALE
1
13
14
25
EL 1
EL 2
EL 3
EL 4
EL 6
EL 7
EL 8
EL 9
EL 21
1
2
25
1
32
abc
EL 22
ASSY 1, Gr. 73
REAR PANEL
TAPE DECK
EL 2
EL 1
EL 3
PAGE 2
D820X CONNECTOR LOCATION PAGE 1

CONNECTOR LOCATION PAGE 2


PAGE 1
ASSY 1, Gr. 73
REAR PANEL TD
EL 1
EL 2
EL 3
ASSY 4, Gr. 1 EL 52
ASSY 4, Gr. 1 EL 50
ANALOG
CH1
CH2
IN
OUT
IN
OUT
ASSY 4, Gr. 2
CONNECTORFIELD
VIEW SOLD. SIDE
(FEMALE)
c b a
cba
1
16
1
32
ASSY 4, Gr. 1
EL 51
ASSY 4, Gr. 3
TEST
EL 12
EXT. CLOCK (SYM.)
EL 11
CLOCK
BNC INTERCONNECTION
EL 13
EL 14
EL 15
RT
OUT
TC
IN
OUT
DIGITAL
IN
OUT
ASSY 4, Gr. 1
BACKPANEL BOX
VIEW SOLD. SIDE
(DSUB MOUNTED
ON SOLD. SIDE)
EL 21
EL 22
EL 20
EL 19
EL 18
EL 17
EL 16
EL 23
EL 15
EL 14
EL 13
EL 12
EL 11
EL 10
EL 9
EL 8
EL 7
EL 6
EL 5
EL 4
EL 3
EL 2
EL 1
VIEW COMP. SIDE
DSUB 25 FEMALE
13
1
25
14
DSUB 25 MALE
1
13
14
25

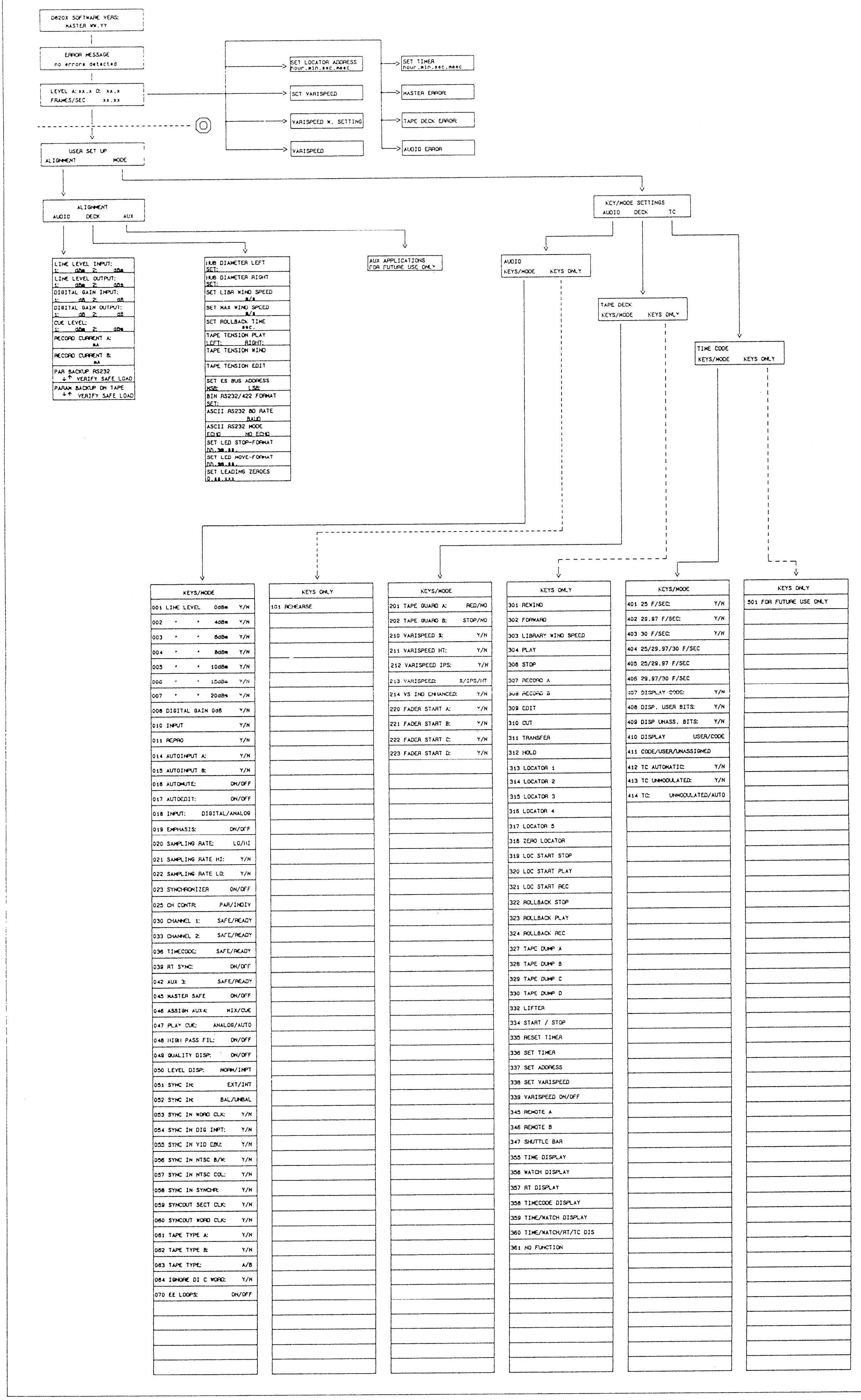
D820X CONNECTOR LOCATION PAGE 2

CONNECTOR LOCATION PAGE 3


AUX 3 IN
AUX 3 OUT
AUX 4 OUT
BOX–RACK
1
2
3
DISPLAY PANEL
LCU – SYNCHR.
AUTOLOC. REM. TIMER
SYNCHRONIZER
PARALLEL REM.
SMPTE/EBU BUS
RS 232
RACK
CABLE to RACK (BOX–RACK 1–3)
VIDEO
CLOCK IN
CLOCK IN OUT
TEST
EXTERNAL CLOCK
RT OUT
TC IN OUT
DIGITAL IN OUT
ANALOG IN OUT IN OUT
BOX

D820X CONNECTOR LOCATION PAGE 3

D820X: MENU STRUCTURE


D820X SOFTWARE VERS:
MASTER XX.YY
ERROR MESSAGE
no errors detected
LEVEL A: xx.x D: xx.x
FRAMES/SEC xx.xx
USER SET UP
ALIGNMENT MODE
SET LOCATOR ADDRESS
hour.min.sec.msec
SET VARISPEED
VARISPEED W. SETTING
VARISPEED
SET TIMER
hour.min.sec.msec
MASTER ERROR:
TAPE DECK ERROR:
AUDIO ERROR
ALIGNMENT
AUDIO DECK AUX
LINE LEVEL INPUT:
1: dBm 2: dBm
LINE LEVEL OUTPUT:
1: dBm 2: dBm
DIGITAL GAIN INPUT:
1: dB 2: dB
DIGITAL GAIN OUTPUT:
1: dB 2: dB
CUE LEVEL:
1: dBm 2: dBm
RECORD CURRENT A:
mA
RECORD CURRENT B:
mA
PAR BACKUP RS232
↓↑ VERIFY SAFE LOAD
PARAM BACKUP ON TAPE
↓↑ VERIFY SAFE LOAD
HUB DIAMETER LEFT
SET:
HUB DIAMETER RIGHT
SET:
SET LIBR WIND SPEED
m/s
SET MAX WIND SPEED
m/s
SET ROLLBACK TIME
sec.
TAPE TENSION PLAY
LEFT: RIGHT:
TAPE TENSION WIND
TAPE TENSION EDIT
SET ES BUS ADDRESS
MSB: LSB:
BIN RS232/422 FORMAT
SET:
ASCII RS232 BD RATE
BAUD
ASCII RS232 MODE
ECHO NO ECHO
SET LED STOP-FORMAT
hh.mm.ss.
SET LED MOVE-FORMAT
hh.mm.ss.
SET LEADING ZEROES
0.ss.xxx
AUX APPLICATIONS
FOR FUTURE USE ONLY
KEY/MODE SETTINGS
AUDIO DECK TC
AUDIO
KEYS/MODE KEYS ONLY
TAPE DECK
KEYS/MODE KEYS ONLY
TIME CODE
KEYS/MODE KEYS ONLY
KEYS/MODE
001 LINE LEVEL 0dBm Y/N
002 " " 4dBm Y/N
003 " " 6dBm Y/N
004 " " 8dBm Y/N
005 " " 10dBm Y/N
006 " " 15dBm Y/N
007 " " 20dBm Y/N
008 DIGITAL GAIN 0dB Y/N
010 INPUT Y/N
011 REPRO Y/N
014 AUTOINPUT A: Y/N
015 AUTOINPUT B: Y/N
016 AUTOMUTE: ON/OFF
017 AUTOEDIT: ON/OFF
018 INPUT: DIGITAL/ANALOG
019 EMPHASIS: ON/OFF
020 SAMPLING RATE: LO/HI
021 SAMPLING RATE HI: Y/N
022 SAMPLING RATE LO: Y/N
023 SYNCHRONIZER ON/OFF
025 CH CONTR: PAR/INDIV
030 CHANNEL 1: SAFE/READY
033 CHANNEL 2: SAFE/READY
036 TIMECODE: SAFE/READY
039 RT SYNC: ON/OFF
042 AUX 3: SAFE/READY
045 MASTER SAFE ON/OFF
046 ASSIGN AUX4: MIX/CUE
047 PLAY CUE: ANALOG/AUTO
048 HIGH PASS FIL: ON/OFF
049 QUALITY DISP: ON/OFF
050 LEVEL DISP: NORM/INPT
051 SYNC IN: EXT/INT
052 SYNC IN: BAL/UNBAL
053 SYNC IN WORD CLK: Y/N
054 SYNC IN DIG INPT: Y/N
055 SYNC IN VID EBU: Y/N
056 SYNC IN NTSC B/W: Y/N
057 SYNC IN NTSC COL: Y/N
058 SYNC IN SYNCHR: Y/N
059 SYNCOUT SECT CLK: Y/N
060 SYNCOUT WORD CLK: Y/N
061 TAPE TYPE A: Y/N
062 TAPE TYPE B: Y/N
063 TAPE TYPE: A/B
064 IGNORE DI C WORD: Y/N
070 EE LOOPS: ON/OFF
KEYS ONLY
101 REHEARSE
KEYS/MODE
201 TAPE GUARD A: RED/NO
202 TAPE GUARD B: STOP/NO
210 VARISPEED %: Y/N
211 VARISPEED HT: Y/N
212 VARISPEED IPS: Y/N
213 VARISPEED: %/IPS/HT
214 VS IND ENHANCED: Y/N
220 FADER START A: Y/N
221 FADER START B: Y/N
222 FADER START C: Y/N
223 FADER START D: Y/N
KEYS ONLY
301 REWIND
302 FORWARD
303 LIBRARY WIND SPEED
304 PLAY
306 STOP
307 RECORD A
308 RECORD B
309 EDIT
310 CUT
311 TRANSFER
312 HOLD
313 LOCATOR 1
314 LOCATOR 2
315 LOCATOR 3
316 LOCATOR 4
317 LOCATOR 5
318 ZERO LOCATOR
319 LOC START STOP
320 LOC START PLAY
321 LOC START REC
322 ROLLBACK STOP
323 ROLLBACK PLAY
324 ROLLBACK REC
327 TAPE DUMP A
328 TAPE DUMP B
329 TAPE DUMP C
330 TAPE DUMP D
332 LIFTER
334 START / STOP
335 RESET TIMER
336 SET TIMER
337 SET ADDRESS
338 SET VARISPEED
339 VARISPEED ON/OFF
345 REMOTE A
346 REMOTE B
347 SHUTTLE BAR
355 TIME DISPLAY
356 WATCH DISPLAY
357 RT DISPLAY
358 TIMECODE DISPLAY
359 TIME/WATCH DISPLAY
360 TIME/WATCH/RT/TC DIS
361 NO FUNCTION
KEYS/MODE
401 25 F/SEC: Y/N
402 29.97 F/SEC: Y/N
403 30 F/SEC: Y/N
404 25/29.97/30 F/SEC
405 25/29.97 F/SEC
406 29.97/30 F/SEC
407 DISPLAY CODE: Y/N
408 DISP. USER BITS: Y/N
409 DISP UNASS. BITS: Y/N
410 DISPLAY USER/CODE
411 CODE/USER/UNASSIGNED
412 TC AUTOMATIC: Y/N
413 TC UNMODULATED: Y/N
414 TC: UNMODULATED/AUTO
KEYS ONLY
501 FOR FUTURE USE ONLY

1 Signal Description

(Date of Printout 12.08.86)

Abbreviations	Symbols:
ttl	TTL level
+/-	Differential (symmetrical) signal
Amp	Amplifier
ana	Analog signal
Hd.	Head
423	RS-423-standard signal
Analog In	Analog Input Board
An. Output	Analog Output Board
Gain Cnt	Gains Control Board
Dapro IF	Data Processor Interface Board
Data Proc	Data Processor Board
Coef. Gen.	Coefficient Generator Board
Codec Cnt	Codec Control Board
Codec Mem	Codec Memory Board
X-format.	Transformatter Board
Run Proc.	Run Processor Board
RT/TC Cod	RT/TC Codec Board
Timing+T.	Timing + Test Board
Syscon	System Controller Board
Box Pwr.	Box Power Supply
An. Rout.	Analog Routing Board
PDM Cnt	PDM Control Board
PDM Demod	PDM Demodulator Board
PDM Mod	PDM Modulator Board
Disp. IF	Display Interface Board
Cue PQ	Cue/PQ Delay Board
Signal Q	Signal Quality Board (on transport)
Master IF	Master-Syscon Interface Board
Master	Master MPU Board
Rack Pwr.	Transport Power Supply
PB. Amp.	Playback Amplifier Board
TD. Monit.	Tape Deck Monitor Board
Chan. Cnt	Channel Control Panel (Transceiver)
Disp. Proc	Display Panel (Display Processor)
Mon. Panel	Monitor Panel (Amplifier)

Remarks: Only the non-inverted conductor of differential signals is listed below. The nomenclature for the inverted conductor contains an "I" right before the actual signal name and after the origin prefix (CC, DD, ect.) which may come first.

Signal	lev	Source	Sink	Description
ADBCLKA	+/-	Dapro IF	Analog In	Bit-clock for analog input
ADCCLIP1	ttl	Analog In	Gain Cnt	Clipping level channel 1 analog
ADCCLIP2	ttl	Analog In	Gain Cnt	Clipping level channel 2 analog
ADDAT1	+/-	Analog In	Dapro IF	Data from analog input CH 1
ADDAT2	+/-	Analog In	Dapro IF	Data from Analog Input CH 2
ADSTART	+/-	Dapro IF	Analog In	Start conversion
ADVALID	+/-	Dapro IF	Analog In	Data from analog input valid
ADT0--3	ttl	Run Proc.	X-format.	Data and sync addresses for X-formatter
AESIN	+/-	XLR plug	Gain Cnt	Data from digital input
AESO1	+/-	Dapro IF	XLR plug	Digital output data (aes/ebu)
ANAIN-1	+/-	XLR plug	Analog In	Channel 1 input analog
ANAIN-2	+/-	XLR plug	Analog In	Channel 2 input analog
ANAOUT-1	+/-	An.Output	XLR plug	Channel 1 output analog
ANAOUT-2	+/-	An.Output	XLR plug	Channel 2 output analog
AUX3IN	+/-	XLR plug	Cue P/Q	Aux 3 input (data only)
AUX3OUT	+/-	An. Rout.	XLR plug	Aux 3 output (data or cue right)
AUX4OUT	+/-	An. Rout.	XLR plug	Aux 4 output (mix or cue left)
B	ttl	PDM Mod.	Cue P/Q	Control signal for cue delay
BLSYN	+/-	X-format.	Write Amp	Blocksync for write amplifier
BSYNCOUT	ttl	Gain Cnt	Dapro IF	Blocksync for digital output
CBUSAD	+/-	Syscon	Timing+T. RT/TC Cod Codec Mem Codec Cnt Gain Cnt Analog In An.Output PDM Cnt Disp. IF Detector	Address line syscon bus
CBUSCLK	+/-	Syscon	Timing+T. RT/TC Cod Codec Mem Codec Cnt Gain Cnt Analog In An.Output PDM Cnt Disp. IF Detector	Clock line syscon bus
CBUSDAT	+/-	Syscon	Timing+T. RT/TC Cod Codec Mem Codec Cnt Gain Cnt Analog In An.Output PDM Cnt Disp. IF Detector	Data line syscon bus
CCADDRDE	ttl	Codec Mem	Codec Cnt	Address disable
CCADEC	ttl	Codec Cnt	Codec Mem	Encoder/decoder ram: 0 = encoder
CCAH0--7	ttl	Codec Cnt	Codec Mem	Ram column addresses
CCAL0--7	ttl	Codec Cnt	Codec Mem	Ram row addresses
CCBLCRC	ttl	Codec Mem	Codec Cnt	CRC block flag
CCCRC	ttl	Codec Mem	Codec Cnt	CRC error
CCE0	ttl	Codec Mem	Codec Cnt	State of word error counter
CCECD	ttl	Codec Mem	Codec Cnt	Uncorrectable checkline
CCEE0	ttl	Codec Mem	Codec Cnt	Part of syscon control byte
CCEE1	ttl	Codec Mem	Codec Cnt	Part of syscon control byte
CCENCIN	ttl	Codec Mem	Codec Cnt	Encoder input enable
CCE1	ttl	Codec Mem	Codec Cnt	State of word error counter
CCFBCLR	ttl	Codec Mem	Codec Cnt	ALU feedback clear
CCILV	ttl	Codec Mem	Codec Cnt	Data discontinuity in checkline
CCIR5	ttl	Codec Cnt	Codec Mem	Timing signal
CCK5	ttl	Codec Cnt	Codec Mem	Timing signal
CCPR1	ttl	Codec Cnt	Codec Mem	Splice preset flag
CCQECD	ttl	Codec Mem	Codec Cnt	Q-line error correction disable
CCQECDM	ttl	Codec Mem	Codec Cnt	Q-line err corr disable masked
CCRDERR	ttl	Codec Mem	Codec Cnt	Read error simulation (syscon)
CCREPRO	ttl	Codec Mem	Codec Cnt	Block flag write
CCWRERR	ttl	Codec Mem	Codec Cnt	Write error simulation (syscon)
CC0--7	ttl	Codec Cnt	Codec Mem	Program instructions
CHAESB	ttl	Dapro IF	Gain Cnt	Right/left channel digital input
CHASEL1--2	ttl	PDM Cnt	An. Rout.	Channel select for monitoring

Signal	lev	Source	Sink	Description
CLK1	ttl	Timing+T.	Run Proc. X-format.	System clock
CLK2	ttl	Timing+T.		System clock
CLK4	ttl	Timing+T.	X-format. Gain Cnt Coef.Gen. Data Proc Dapro IF	System clock
CLK5	ttl	Timing+T.	X-format. Codec Mem Codec Cnt Coef.Gen. Dapro IF RT/TC Cod	System clock
CLK6	ttl	Timing+T.	Run Proc. X-format. Codec Mem Codec Cnt	System clock
CLK7	ttl	Timing+T.	Codec Mem Codec Cnt	System clock
CLK8	ttl	Timing+T.	Codec Mem Codec Cnt	System clock
CLK9	ttl	Timing+T.	Codec Mem Codec Cnt	System clock
DABCDA1	+/-	Dapro IF	An.Output	Bit-clock for analog output
DACOUT1	ana	An.Output	An. Rout.	Channel 1 monitor input
DACOUT2	ana	An.Output	An. Rout.	Channel 2 monitor input
DADAT11	+/-	Dapro IF	An.Output	Data channel 1
DADAT21	+/-	Dapro IF	An.Output	Data channel 2
DAVAL1A	+/-	Dapro IF	An.Output	Data valid for digital output
DA96FS	+/-	Dapro IF	An.Output	Sampling clock for dig. output
DCDAPDEC	ttl	Codec Mem	Coef.Gen.	Data outpt frm decoder to dapro
DCD1CLK	ttl	Codec Cnt	Codec Mem Coef.Gen.	Data clock normal channel
DCD2CLK	ttl	Codec Cnt	Codec Mem Coef.Gen.	Data clock twin channel
DCENCDAP	ttl	Dapro IF	Codec Mem	Data outpt frm dapro to encoder
DCFMUT	ttl	Codec Cnt	Data Proc	Mute flag : 1 = mute
DCFSPL	ttl	Codec Cnt	Data Proc	Splice flag
DCIDAVAL	ttl	Dapro IF	Codec Mem	Data shift enable (act. low)
DCINIT	ttl	Codec Cnt	Data Proc Gain Cnt	Blocksynchronization codec-dapro
DCINVAL	ttl	Codec Mem	Data Proc	Data error flag : 1 = error
DDATAAES	ttl	Dapro IF	Gain Cnt	Digital input data
DDBCLK	ttl	Dapro IF	Gain Cnt	Clock digital input data
DDBSYNIN	ttl	Dapro IF	Gain Cnt	Blocksync digital input data
DDB1D14	ttl	Coef.Gen.	Data Proc	Bus 1 for crossfilter
DDB2D13-15	ttl	Coef.Gen.	Data Proc	Bus 2 for crossfilter
DDCHPRO	ttl	Data Proc	Coef.Gen. Dapro IF Gain Cnt	Signal processing channel choice 0 = channel 2, 1 = channel 1
DDCHSTAT	ttl	Dapro IF	Gain Cnt	Channel status digital input
DDCK2AES	ttl	Gain Cnt	Dapro IF	Clock-2 digital input
DDCLKG1	ttl	Gain Cnt	Coef.Gen.	Bit-clock for DATAG1
DDCLRO	ttl	Coef.Gen.	Data Proc	ALU overflow flag
DDC3	ttl	Data Proc	Gain Cnt	Clipping active flag
DDDATAG1	ttl	Gain Cnt	Coef.Gen.	Serial gain addresses/data input
DDFADD0--1	ttl	Dapro IF	Gain Cnt	Digital input flag addresses
DDFGAI	ttl	Coef.Gen.	Data Proc	Load gain command for program control
DDGRDY1	ttl	Coef.Gen.	Gain Cnt	Ready to load gain
DDHPOFF	ttl	Gain Cnt	Data Proc	High pass filter on/off : 0 = on
DDIDIGMU	ttl	Gain Cnt	An.Output	Power-up reset
DDIFVAL	ttl	Dapro IF	Gain Cnt	Flag digital input data valid
DDISTART	ttl	Data Proc	Coef.Gen. Dapro IF	Start A/D conversion
DDLCLK1	ttl	Gain Cnt	Coef.Gen.	Shift enable/end of data for DATAG1
DDLCLK10	ttl	Data Proc	Dapro IF Gain Cnt	Repro out to display register
DDLCLK11	ttl	Data Proc	Dapro IF Gain Cnt	Sync out to display register
DDMIEN1	ttl	Coef.Gen.	Data Proc	Multiplier enable
DDMUTE	ttl	Gain Cnt	Data Proc	Overall mute
DDPROA0--9	ttl ttl	Data Proc	Coef.Gen. Gain Cnt	Program counter (D0 = lsb)

Signal	lev	Source	Sink	Description
DDSPOTER	ttl		Coef.Gen.	not used anymore
DD3HEAD	ttl		Coef.Gen. Data Proc	not used anymore
DINT	ttl	Run Proc.	X-format	Input data for transformatter
DTR1--8	+/-	Detector	Run Proc.	Digital track 1 to 8
DPCBAD	+/-	Disp. IF	Chan.Cnt Disp.Proc Mon.Panel	Sysbus-addresses for Panels
DPCBDAT	+/-	Disp. IF	Chan.Cnt Disp.Proc Mon.Panel	Sysbus-data for Panels
DPCBCLK	+/-	Disp. IF	Chan.Cnt Disp.Proc Mon.Panel	Sysbus-clock for Panels
DP0--7	ttl	Cue P/Q	PDM Mod.	Delayed PDM data
DSPA-0--7	ttl	PDM Cnt	Signal Q.	Signal quality channel 1
DSPB-0--7	ttl	PDM Cnt	Signal Q.	Signal quality channel 2
DSSY	ttl	X-format.	RT/TC Cod	Sectorsync for rt
DTR1--8	+/-	Detector	Run Proc.	Digital tracks 1--8
D0--D7	ttl	PDM Cnt	PDM Demod An.Rout.	8-bit bus for level adustments
EEPDM	ttl	PDM Cnt	PDM Demod	PDM E to E loop on/off
ENCDELAY	ttl	PDM Cnt	Cue P/Q	Cue P/Q data delay adjust
FILCLK	ttl	PDM Cnt	PDM Demod	SC-filter bandwith control
FBWS	+/-	X-format.	---	Word sync
FLEM	ttl	Gain Cnt	Analog In An.Output	Emphasis flag
F1--F3	ttl	X-format.	---	Flags to be written on tape
HDTR1--12	ttl	Read Head	Head Amp.	Read head tracks 1--12
HI/LO	ttl	Timing+T.	X-format.	Sampling frequency=32kHz or not
IAN/PDM	ttl	PDM Cnt	PDM Demod	Cue tracks recorded 0 = analog, 1 = PDM
ICARRY	ttl	Dapro If	Gain Cnt	Blocksync out
ICLK5	ttl	Timing+T.	X-format.	System clock
ICLK6	ttl	Timing+T.	X-format. RT/TC Cod	System clock
ICOUT1WR	ttl	PDM Cnt	An. Rout.	Cue 1 output level
ICOUT2WR	ttl	PDM Cnt	An. Rout.	Cue 2 output level
IERRL	ttl	----	X-format.	X-formatter error flag CRC
IHISPD	ttl	Detector	PB. Amp.	0 = tape speed > 1m/sec
ILOCK	ttl	Dapro IF	Gain Cnt	Locksignal DI-PLL
ILOSPD	ttl	Detector	PB. Amp.	0 = tape speed > 20 cm/sec
IMASSA	ttl	Write Amp	Detector	Master Safe (0 = on)
IPDMMUTE	ttl	PDM Cnt	PDM Demod	Mute PDM
IRECD1--2	ttl	Detector	Write Amp	Write-enable for dig.track 1/2
IREC1--2	ttl	Detector	Write Amp	Write-enable for dig.track 3--10
IREC11--12	ttl	Detector	Write Amp	Write-enable for dig.track 11/12
ISYNC	ttl	Run Proc.	X-format.	Sync for X-formatter input data
ITEST	ttl	----	X-format.	Test signal
IWRET	ttl	Run Proc.	X-format.	X-formatter input data valid 0 = 2 head
ITRAR	ttl		X-format.	Test signal
ISYRT	ttl	RT/TC Cod	X-format.	RT sync pulse
K-PWRUP	+24	Rack Pwr.	Box Pwr.	Pwr-up voltage for box pwr suppl
K5	ttl	Codec Cnt	Codec Mem	Timing signal
MON/STE	ttl	PDM Cnt	PDM Mod. PDM Demod An. Rout. Cue P/Q	PDM track mono/stereo: 0 = mono
MONTR1	ana	An. Rout.	Mon.Panel	Monitor left signal
MONTR2	ana	An. Rout.	Mon.Panel	Monitor right signal
MON1--5	ttl	TD.Monit.	Detector	Tape deck monitor keys
P-ADDR0--11	ttl	Syscon	----	MPU-addresses
P-DATA0--7	ttl	Syscon	----	MPU-data
P-EN	ttl	Syscon	----	MPU-enable
P-INMI	ttl	Syscon	----	MPU-interrupt masked
P-IN2	ttl	Syscon	----	MPU-interrupt level 2
P-IRES	ttl	Syscon	----	MPU-reset
P-ISEL0--3	ttl	Syscon	----	MPU-select
P-OUT1--2	ttl	Syscon	----	MPU-port output
P-RW	ttl	Syscon	----	MPU-read/write signal

Signal	lev	Source	Sink	Description
PBTR1	+/-	PB. Amp.	RT/TC Cod An.Rout.	Time code playback signal
PBTR2	+/-	PB. Amp.	RT/TC Cod	Reference time playback signal
PBTR3--10	+/-	PB. Amp.	Detector	Digital tracks playback signal
PBTR11	+/-	PB. Amp.	PDM Demod	Cue right playback signal
PBTR12	+/-	PB. Amp.	PDM Demod	Cue left playback signal
PDBCLK	+/-	Dapro IF	PDM Mod.	Bit-clock for PDM modulator
PDCLK3	+/-	Timing+T.	PDM Mod. Cue P/Q	CLK3 for PDM electronics
PDDATA	+/-	Dapro IF	PDM Mod.	PCM data for PDM modulator
PDWCLK	+/-	Dapro IF	PDM Mod.	Word-clock for PDM modulator
PDM-1	ana	PDM Demod	An. Rout.	PDM 1 playback signal
PDM-2/SC	ana	PDM Demod	An. Rout.	PDM 2 playback signal
PDMIOE	ttl	Cue P/Q	PDM Mod.	Ouput enable for PDM data to be delayed
PD0--PD7	ttl	PDM Mod.	Cue P/Q	PDM data to be delayed
PHOSELA	ttl	PDM Cnt	An. Rout.	Phone output : source a
PHOSELB	ttl	PDM Cnt	An. Rout.	Phone output : source b
PWROK	ttl	Box Pwr.	Syscon	Power supply ok signal
PXRT	ttl	X-format.	RT/TC Cod	RT window
RAND	ttl	X-format.	---	Test signal
RDTC	+/-	PB. Amp.	RT Codec	Time Code playback signal
RESHPG1-2		X-format.	RT/TC cod	spare interconnections
RTIN	+/-	XLR plug	RT/TC Cod	Reference time input
RTOUT	+/-	RT/TC Cod	XLR plug	Reference time output
RTSYNC	ttl	RT/TC Cod	Timing+T. X-format.	Servo controlled by RT
RES3	ttl	PDM Cnt	PDM Demod	Spare bit
SAMPCLK	+/-	Timing+T.	Box Pwr.	Power supply clock (fs)
SAMPH/L	ttl	Gain Cnt	Dapro IF	Samp. frequ. 1=44,1/48kHz 0=32kHz
SCLK3	ttl	Timing+T.	Run Proc.	Run Processor clock
SECSYN	ttl	X-format.	RT/TC Cod Gain Cnt	Sector sync pos. edge indicates sector start
SLR	ttl	X-format.	RT/TC Cod	Servo speed control indication
SPEAKMUT	ttl	PDM Cnt	Mon.Panel	Monitor Panel mute signal
SPLINIT	ttl	Gain Cnt	Data Proc Dapro IF	Splice Initialization
SSDACLK	+/-	Master IF	Syscon	SSDA IF. clock
SSDADTR	+/-	Master IF	Syscon	SSDA IF. data transmit ready
SSDACTS	+/-	Syscon	Master	SSDA IF. clear to send
SSDAMRX	+/-	Syscon	Master	SSDA IF. receive data
SSDAMTX	+/-	Master IF	Syscon	SSDA IF. transmit data
SY/WDCKI	423	BNC plug	Timing+T.	Sector/Word clock input
SY/WDCKO	423	Timing+T.	BNC plug	Sector/word clock output
SY/WDIN	+/-	Ext plug	Timing T.	Sector/word clock input
SYWDOUT	+/-	Timing+T.	Ext plug	Sector/word clock output
SYSCFS1--2	ttl	RT/TC Cod	Run Proc.	Sampling frequency
TAPETYPE	ttl	RT/TC Cod	Run Proc.	0 = type B, 1 = type A
TCIN	+/-	XLR plug	RT/TC Cod	Time code input
TCOUT	+/-	RT/TC Cod	XLR plug	Time code output
TCRCERR	ttl	X-format.	Codec Mem	CRC error
TCY-4	ttl	Codec Cnt	X-format.	Carry output reference counter
TD-MVCLK ???	ttl	Ref Clk	PDM Demod	Move pulses
TDECDASY	ttl	X-format.	Codec Mem	Data from X-formatter to decoder
TDSMUTE	ttl	Detector	TD Monit.	Tape deck monitor mute signal
TEST1	ttl	RT/TC Cod	---	Test signal
TFORMENC	ttl	Codec Mem	X-format.	Data from Encoder to X-formatter
TDMPRES	ttl	TD. Monit	Detector	Tape deck monitor present flag
TREFEXT	+/-	Master IF	Timing+T.	External capstan reference
TREFINT	+/-	X-format.	Master If	Internal capstan reference
TPR-1	ttl	Codec Cnt	X-format.	Spare interconnection
TSTSIFRD	ttl	Terminal	Syscon	Terminal interconnection rcv
TSTSIFTD	ttl	Syscon	Terminal	Terminal interconnection xmt
TTIXLOOP	ttl	Timing+T.	X-format. RT/TC Cod	EE loop 2 on
TTRDEMPH	ttl	X-format.	Timing+T.	X-formatter emphasis to syscon
TTREC	ttl	Timing+T.	X-format.	Record signal for X-formatter: nominal servo speed
TTWREMPH	ttl	Timing+T.	X-format.	X-formatter write emphasis
VCLKIN	423	BNC plug	Timing+T.	Video clock input
VIDCLK	+/-	Ext plug	Timing+T.	Video clock input

Signal	lev	Source	Sink	Description
WRCLK4	+/-	X-format.	Write Amp	Clock to read serial data
WRDOUT	+/-	X-format.	Write Amp	PCM serial data to Write Amp.
WRSY0	+/-	X-format	Write Amp	Sync signal to Write Amp.
WRTC ???	+/-	RT Codec	TC Modem	Time Code record signal
WRTR1 ???	+/-	TC Modem	Write Amp	Time Code write signal
WRTR2	+/-	RT/TC Cod	Write Amp	Reference Time write signal
WRTR3--10	+/-	Write Amp	Detector	Digital tracks write signals
WRTR11	+/-	PDM Mod.	Write Amp PDM Demod	Aux track 3 write signal
WRTR12	+/-	PDM Mod.	Write Amp PDM Demod	Aux track 4 write signal
WRTOUT1--12	ttl	Write Hd.		Write head signal
W0--W1	ttl	X-format.	----	Flags to be written on tape
2ECCLK	+/-	Timing+T.	Dapro IF	System clock : T = 128 * fs

2 SYSCON Monitor

The Syscon monitor is part of the Syscon operating system. It is designed to enable a user to control and test programs and hardware for the audio section of the D820X digital tape recorder.

Connect a terminal (supported types below) or a personal computer to the DSub25 connector labeled "Test" at the rear panel of the PCM box. See par. 2.4.1.5 and 2.10.3.A in vol. 1 of the D820X manuals for electrical interfacing. Par. 2.10.5 in the same manual describes the operation of the ASCII interface for the master monitor and is also applicable to the operation of the syscon monitor.

After power-up, the Syscon monitor displays the following message on a properly installed terminal or computer:

```
Welcome to the
D820X SYSCON Operating System
Rel. ww/yy (C)PCM SoftTeam
STUDER AG  CH-8105 Regensdorf

TTY:ESPRIT

>_
```

The message "TTY:ESPRIT" indicates that the system has been installed for an "ESPRIT" terminal. After the logon message, the prompt ">" and and the cursor appears.

Commands:

Command format:

```
>command {arg {arg {.. }}}
```

The command name is followed by a delimiter of space, comma, or carriage return. If there are no arguments, carriage return terminates the command; otherwise, a space or a comma separates the command from its argument. A space or comma separates arguments from each other. Some short commands (one character commands) require no carriage return and have no arguments.

Entering Commands:

Commands must be entered next to the prompt without a space. Upper or lowercase letters are allowed. The commands can be abbreviated. For example just type in S<CR>, instead of SEND<CR>. The Syscon monitor searches for the first string in the command table which matches the entered string and executes that command.

Misstyped commands can be corrected with "Back Space" and "Del". "ESC" deletes the command line.

The monitor displays an ERROR message when a command can not be found:

```
ERROR: command not found, use HELP
```

By typing the command "HELP<CR>" or just "H<CR>" all commands known to the system are listed. The listing can be interrupted and continued with the space bar or aborted with "ESC".

If the monitor detects a valid command with wrong or misstyped arguments, it displays an ERROR message and the syntax of the command. Then the command line will be displayed again with the cursor at the position of the wrong argument. This allows for quickly correcting arguments:

```
>SEND 71 7G
ERROR: bad data

>SEND 71 7G
                - cursor placed under wrong argument
```

A command is normally terminated if the prompt appears again without a preceeding error message.
Most arguments can be entered just by their first letters. Arguments for addresses or data can be entered in the following forms:

hexadecimal: 1B (default)
decimal: 27.D
binary: 11011.B
label: CLRSCR (see command ?LABEL)

Detailed Command Description:

General: Arguments in brackets {} are optional. Some commands display the actual status if no argument is given:

Example:

```
>ECHO {Enter}
=ON
>_
```

Arguments can have a set of possible switches or modes separated by slashes "/". Note that only one item can be selected at once.
Text in round brackets () which is only for remarks and the character ">" which indicates the system prompt should not be entered.

Note: Use HELP to list all available commands.

Monitor Command List:

"@"	(single stroke command) Typing @ recalls the last entered command. The command can be executed with "carriage return" or modified as described in "Entering Commands".
"/"	(single stroke command) Displays data of last entered ROM/RAM memory address.
?	See command HELP.
?LABEL	Displays a list of addresses of constants or subroutines which can be directly accessed by its LABEL.
?TTY	Searches through ROM for terminal_drivers. If it has found a driver, it displays the name of the driver on the display. Confirm a driver by entering "y" or let ?TTY search for another driver by typing "n". A few terminal drivers are listed below (see also CTTY).

Preinstalled terminal drivers:

ANSI	standard driver for IBM PC (VT 100) and Atari
ASCII	dummy terminal (no special functions)
ESPRIT	Esprit by Hazeltine or by Esprit model 6110
HP	Hewlett Packard
TVI905	TeleVideo 905

AUTOEDIT {on/off}

AUTOEDIT routes the the digital (main) tracks to the audio monitor in play or record mode; otherwise the audio monitor is connected to the cue tracks.

AUTOINPUT {on/off} {A/B}

In mode A, AUTOINPUT routes all digital channels to input if not in play or record. Otherwise, channels are set according to the channel status. In mode B, AUTOINPUT routes ready channels only to input for the same conditions as in mode A.
{A/B} argument only sets AUTOINPUT mode.

AUTOLEVEL {on/off}

This function is referred to in the menu as LEVELDISP. When on, the level-display is automatically connected to input if the recorder is in stop or record or if the channels are in input mode. In off state the level display is configured to read off-tape signals.

AUTOMUTE {on/off}

AUTOMUTE mutes the cue track line outputs in wind mode only.

BYTE address

Displays in hex the contents of the memory byte specified by address or label. See also MEMORY or WORD.

CALGAIN +/- value(dB) analog/digital{input/sync/repro{left/right}}}

CALGAINS sets the calibrated gains to the following possible values:
digital: - 10 ... + 6 dB
analog: + 0 ... + 20 dB

The optional arguments are used to set specified gains only.

Examples:
>CALGAIN + 2 a r l : sets analog repro gain left to 2 dB.
>CALGAIN - 4 a i : sets both analog input gains to - 4 dB.
>CALGAIN + 0 d r : sets all digital gains right to 0 dB.

CBUS enable/disable/address

The argument "disable" disables access to the control bus for all programs. This is useful to interrupt data transfer on the sysbusbus for test or other purposes.
The argument "addr" enables data transfer to or from only one particular sysbusbus address. Access to all other addresses is disabled.
This command has no effect on the commands SEND and RECEIVE !

Example: >CBUS 70 : disables access to all sysbusbus addresses except address 70

CODEC testmode

This command is used to set the Codec into its various test modes for read/write error simulation and to select the quality display information generated by the Codec.
The Codec test modes are listed in section "D820X: COMMUNICATION BETWEEN SYSCON AND HARDWARE", in section 4 of vol. III of the D820X manuals.

Example: >CODEC 47: simulates read errors (long burst ch2 all tracks)

CTTY type

CTTY is another way to change the terminal driver currently in use. In opposition to ?TTY the name of the terminal driver can be entered directly. The driver will be replaced immediately if the specified driver is available; else, an error message is displayed.

Example: >CTTY ESPRIT: TTY driver will be replaced by ESPRIT terminal

CUEGAIN (dB) {left/right}

CUEGAIN sets the cue output gains in the same way as CALGAIN in the range: 0..20 dBV.7. AUX3 gain is fixed to TTL level when in cue mix mode (see also command CUEMODE).

Example: >CUEGAIN 6 L : sets cue output gain left to 6 dBm

CUEMODE {unmodulated/modulated/auto} {stereo/mix}

arg: {unmod/mod/auto}
selects the appropriate mode for the cue track demodulator (PDM Demodulator). The D820X always writes modulated cue tracks. The arguments are optionally and can be abbreviated (u/mo/a) (s/mi).
arg: {stereo/mix}
selects the cue track configuration either for stereo cueing mode or for mixed cue mode (aux4mix). The two cue tracks are then summed and recorded on auxiliary track 4 (left cue track). In mix mode the auxiliary data channel is assigned to the right cue track.

Example: >CUEMODE u s : selects analog bias playback and stereo cue mode

DISPLAYFORMAT data

This command is used to set the LED display format:

```
format:  bit     7 6 5 4 3 2 1 0
                 | | | | | | 0 0  →  display stop format 1/1000sec
                 | | | | | |  . .
                 | | | | | | 1 1                         1sec
                 | | | | 0 0      →  display move format 1/1000sec
                 | | | |  . .
                 | | | | 1 1                             1sec
                 | | 0 0          →  leading zero suppr. hh.mm.ss.xxx
                 | |  . .
                 | | 1 1                                 m.ss.xxx
                 x x
```

Example: >DISPLAYFORMAT 00111000.B : move m.ss.x stop m.ss.xxx

DUMP {addr1} {addr2} {r}

Dumps a block of memory in hex digits and ASCII characters. Press "space bar" to hold/continue dump or "Escape" to abort.
Argument "r" repeats the dump function.

Examples:

```
>DUMP          : dumps all, starting at the last entered address
>DUMP 400      : dumps only one line 400...4F
>DUMP 20 1000  : dumps from address 20 to address 1000
```

ECHO {on/off}

Echo character entered by keyboard on the screen.

EELOOP {0..5}

EELOOP (electronics to electronics loop) is used to test individual sections of the digital audio path.

Examples:

```
>EELOOP 0 : no loop → signal off tape
>EELOOP 1 : Write amp/Run Processor loop (Detector) (l+r)
>EELOOP 2 : Transformatter loop (also RT-loop)
>EELOOP 3 : loop after Codec
>EELOOP 4 : input loop, before Codec
>EELOOP 5 : Dapro input loop (ADC to DAC converter)
```

EMPHASIS {on/off}

EMPHASIS selects record/playback with emphasis (ADC) and deemphasis (DAC). In playback, deemphasis is set according to the emphasis flag encountered on tape, in digital input mode according to the channel status byte.

HELP

Displays the command list with syntax. Press "space bar" to hold/continue listing or "Escape" to abort.

HPFILTER {on/off}

HPFILTER selects the digital highpass filter. It is active in the analog input mode only.

IGNOREDI {on/off}

"Ignore digital input" (control word) is used when the control word of the digital input source is not confirming in its format to the professional AES/EBU standard. The D820X operates with professional AES/EBU control information only, and will display an error message "Illg Dig Inp Format" when in digital input mode with (IGNOREDI = off)in the case of a control word which does not confirm to the professional AES/EBU standard. With (IGNOREDI = on) the D820X neglects incoming digital input control information, thereby enabling the user to select sampling rate and emphasis manually. No error message will be displayed anymore.

Example:

```
>IGNOREDI on : neglects digital input control information
```

INPSEL {analog/digital}

The command INPSEL controls the input selector. Input to the recorder can be either from ADC (analog) or DI (digital input).

INPUT {1} {2} {tc} {aux}

When INPUT is selected, the line outputs and the digital outputs carry the input signal of a specified channel (channel 1 or 2). If no argument is given, all channels are set to input. See also commands REPRO, AUTOINPUT, and EELOOP.

Example:

```
>INPUT 2 tc   : sets channel 2 and timecode to input
```

MASTERCLOCK {internal/ebu/ntsc{black&white/color}/di/tls/wordclock} {balanced/unbalanced} {outputclock wordclock/sector}

The clock reference for the masterclock can be supplied by the following sources:

internal	: internal crystal
ebu	: external video clock 50 Hz or composite video (unbalanced only)
ntsc black&white	: external video clock 60 Hz or composite video (unbalanced only)
ntsc color	: external video clock 59.94 Hz or composite video (unbalanced only)
di	: digital input (AES/EBU format)
tls	: external synchronizer
wordclock	: external word clock (sampling frequency)

Some clock input circuits accept balanced or unbalanced signals. The argument "balanced/unbalanced" should be added according to the input signal.
There is only one connector for clock output. The argument "outputclock wordcloc/sector" is used to select between word and sector clock as output clock.

Examples:

```
>MASTERCLOCK int out w   : selects crystal, outclk = word
>MASTERCLOCK di bal      : selects digital input balanced (unbalanced is not possible)
```

MEMORY {addr}

The command MEMORY displays or changes memory data. If no address is given the last entered address will be used.
Press "space bar" to skip to the next databyte, "\" to skip back to the previous databyte or "carriage return" to finish.

Example:

```
>MEMORY 100
0100: 05
         - enter new data here
```

MONITOR {audio/cue/tc} {input/repro} {mute/demute {1/2}}

The audio monitor can be fed by different signal sources specified with the first two arguments. Both monitor channels can be muted with the additional argument "mute/demute {1/2}".

Example:

```
>MONITOR cue mute 1   : monitoring of cue tracks, ch 1 muted
>MONITOR tc r         : monitoring of timecode repro
```

MR {addr}

Repetitive readout of memory data, specified with {addr}. See also command MEMORY.

PLAY {quit}

The command PLAY configures the electronics for reproduce mode and demutes the digital reproduce channels. PLAY quit terminates playback mode and mutes the digital reproduce channels.

POWER {down}

The command POWER demutes all output channels and the audio monitor. This command is also used to reset Codec Control.
POWER down mutes all output channels and the audio monitor. All write amplifiers will be switched off (for safety) and the checksum of the nonvolatile RAM section will be calculated. Then the System controller shuts down.

QDISPLAY {on/off}

The signal quality display is active only if it is enabled with the command QDISPLAY (default on) and only in play/repro mode.

RAMTEST addr1 addr2 {r}

RAMTEST checks RAM for read/write errors. There are two RAM-sections:

section	address range	
Syscon	0080 ... 07FF	(min 2 k RAM)
user	0800 ... 1FFF	(only if 8 k RAM installed)

The additional argument {r} may be added to repeat ramtest; press "ESC" to abort.

Example: >RAMTEST 80 7FF r repeats syscon RAM test

READY {master} {d {1/2}} {a {1/2/3/4}}

READY with no argument, it sets all channels to ready mode.
READY with the argument {master} disables MASTERSAFE (see also commands SAFE and RECORD).

Example: >READY d1 a1 a2 : sets dig ch1 and aux ch1 + 2 to ready

RECEIVE addr {b}

RECEIVE reads one byte from a sysbus transmitter continously until any key is pressed. "addr" must be an even address, one byte long. The argument {b} can be added to display the received byte in binary format.

Examples:

```
>RECEIVE 70
C_BUS ADDR: 70  DATA 5A

>RECEIVE 70 b
C_BUS ADDR: 70  DATA 01011010
```

RECORD {quit} {current {+/- xx}}

RECORD activates record mode. Data of ready channels is written on tape if rehearsal mode is not established.
RECORD quit terminates record mode.
The record current is set with the optional argument "current +/- xx". "xx" must be in the range 0..44.

Example: >RECORD cur + 35 : sets record current to 35.

REHEARSE {on/off}

Activates rehearsal mode. The entire encoding and decoding chain is used and data is routed directly in front of the record drivers to the Run Processor. Due to this measure all functions of the digitalaudio electronics can be simulated (gain adjustments, etc.) and the delays are identical to the off tape mode, except for the head delay which is 152 blocks. The command here affects both channels simultaneously. Only commands from master or from the serial interface are channel selective. If necessary, channel selective commands can be transmitted by using SEND command (see below). The write amplifiers remain in safe mode.

See also commands EELOOP and SAFE.

REPRO {1} {2} {tc} {aux}

Sets the appropriate main channels 1 or 2 or the time code track or auxiliary 3 track to reproduce mode, instead of input mode.

RESET {time/pcm/peak/qcount} {quit}

RESET must always be followed by RESET quit. This combination resets the actual time (when this option is selected) which is displayed in the time displays. In watch mode, reset also clears the signal quality counters. In RT mode, reset is active in record mode only. TC must be reset on the external time code generator. The options peak or qcount reset either the peak level display or the quality counters.

RTSYNC {on/off}

RTSYNC has two different meanings. It is used to protect the RT track from accidental overwriting and controls the TBC (time base corrector) sync mode. If RT Sync is on, the TBC synchronizes to RT sync from tape, else to data block sync. During normal operation RT Sync is necessary when a channel sequential recording is made or played back.

SAFE {master} {d {1/2}} {a {1/2/3/4}}

SAFE with no argument sets all channels in safe status. SAFE with the argument {master} means MASTERSAFE. In this mode, all channels are switched to safe, overriding to ready is not directly possible (see also command READY).

Example: >SAFE d1 d2 a1 : sets dig ch 1 + 2 and aux ch1 to safe

SAMPFREQ {hi/lo/data}

The D820X has a set of two VCXO's[1] which generate the masterclock timing, "hi" selects the higher sampling frequency, "lo" the lower sampling frequency of which the recorder is equipped. With "data" one of four sampling frequencies can be specified even if the recorder is not equipped accordingly:
Fs = 1(48), 2(44.1), 3(32) and 4(44.056) kHz. This is allowed only in external sync mode (see MASTERCLOCK).

Example:
>SAMP hi : selects the high sampling rate
>SAMP ext 4 : selects 44.056 kHz = > ext. Sync !

SEND address data {repeat}

It is used to send data bytes to the hardware according to the list "COMMUNICATION BETWEEN SYSCON AND HARDWARE" in section 4 of this manual. Some of these commands may immediately be overwritten by the system controller (i.e. time settings when the recorder is in reproduce mode). Then the argument {r} can be added to repeat the command. "addr" must be an odd address.

SHOW status/gains/quality {codec testmode}/crc 1..8/rt

SHOW displays Syscon variables repetitively. The argument permits a choice of the following options:

status:	errors, parameters, flags
gains:	gain values for cal-, uncal- and headroom gains
quality:	signal quality counters
crc:	CRC errors of single tracks
rt:	control word of reference track (up to 16 bits) and channel status bytes (one each) of digital in- and output (AES/EBU-type).

The option "quality" has an additional argument for Codec test mode (see chapter "COMMUNICATION BETWEEN SYSCON AND HARDWARE" for a detailed description of the Codec test modes in section 4 of this manual).

Examples:
>SHOW s displays Syscon status
>SHOW q 7F displays quality counters in Codec repro-loop
>SHOW crc 3 displays CRC errors of track 3

STTY 9600/1200/300

The baudrate of the RS-232 output labeled "Test" can be set to the following standard values:

9600	default setting for terminal emulation
1200	used for cassette tape loading or save (streamer mode)
300	used for modem emulation via telephone line

---

[1] VCXO: voltage controlled crystal oscillator

SWEEP 0..125(o/oo)

The varispeed deviation is modulated by a software LFO (low frequency oscillator) in the specified range (max +/- 12.5 %), until a key is pressed. The modulation speed is approx. 5 seconds.

TANDEM {on/off}

The functions SAFE, READY, INPUT and REPRO are operated simultaneously for both main channels when activated.

TAPESPEED {data}

Used to simulate tape speed values to check switching behavior of hardware. Data is defined as an integer value from 0...1500. The D820X uses two distinct tape speeds to switch resonators, gains, etc.: 50 cm/sec. and 1 m/sec.

Example: >TAPESPEED 1000 : tape speed 1 m/sec. selected

TASK {stop/run} {task_name}

The software of the D820X Syscon is written in a multitasking environment in order to support debugging operations of software or hardware. Since one or more (usually running) tasks can be stopped, faults can be traced more easily within the system. Below is a brief description of the tasks that can be controlled by means of this command:

SYSCO: checks system status, timing, battery and controls access to the command processor.
SSDA: communicates with the master CPU.
LQDSP: processes data for the level and quality displays.
TMDSP: processes data for the time displays.
RFTRK: handles RT data and controls RT Codec.
TCTRK: handles TC data and controls TC Codec.
AESIF: handles DI/DO data and controls the digital interface.
DPPAN: controls the Display panel.
CCPAN: controls the Channel Control panel.
MCPAN: controls the Monitor panel.
TDMON: controls the Tape Deck Monitor unit.

Example:

>TASK STOP RFTRK : disables execution of the reference track task
>TASK RUN : enables execution for all tasks
>TASK : displays status of all tasks

TCDISPLAY time/user/flags

Selects time code display mode. The actual display mode must have been set to time code (see TIMEMODE).

time : tc time
user : tc user data bytes
flags : tc flags (f1, f2, f3, f4)

TCFRAME {25/29/30}

Sets TC delay according to the selected tc frame rate.

Example:

>TCFRAME 29 : sets TC delay to 29.97 frm/sec.
>TCFRAME : displays the selected TC frame rate.

TCMODE {unmodulated/modulated/auto}

The D820X modulates TC in record mode and sets a flag in the RT control word to indicate that TC is modulated. To be compatible with other tapes where TC has been recorded with the conventional bias method, the D820X reads the flag in the RT control word and configures the TC demodulator circuit to the appropriate mode when in auto mode. This mode can be overwritten manually to <unmod> (unmodulated) or <mod> (modulated). Overriding may be necessary if the information contained in the RT control word does not correspond to the actual recording method (restriping of TC only by a recorder with a different recording method, etc.).

Example:

>TCMODE unmod :	discards the TC mod flag in the RT control word and selects unmodulated mode.
>TCMODE :	displays the actual mode.

TIMEMODE movetimer/watch/rt/tc

Selects the actual time display mode:

move:	tape move counter (tape time from move roller)
watch:	relative tape move counter
rt:	reference track time
tc:	time code (see also TCDISPLAY)

VARISPEED {on/off} VARISPEED mode is active only if the masterclock is set to internal clock reference (see command MASTERCLOCK).

VARIDEV {+/- 125(o/oo)} Is used to set the deviation in varispeed mode. The deviation range is +/- 12.5 %. Data for deviation is entered as follows:

varispeed deviation:	data:
- 12.5 %	- 125
0.0 %	+ 0
+ 12.5 %	+ 125

Example: >VARIDEV - 75 : sets the varispeed deviation to - 7.5 %

WATCH {run/stop} Emulates watch control mode. The counting mode can be enabled with command "run" or stopped.

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3 Communication Between SYSCON and Hardware

Sn 148903

REV.:	23855	/ENCDELAY ACTIVE LOW
REV.:	12856	/ENCDELAY ACTIVE HIGH /PRESENT BIT DETECTOR /EELOOP1 ACTIVE LOW /VTOPDM, VFROMPDM DELETED /PRESENT BIT PDM CONTROL GETS ADDRESS A0H
REV.:	13856	/TDSMUTE, MPSMUTE ACTIVE LOW
REV.:	14856	/MPSMUTE, PLACED TO BIT 1
REV.:	2857	/MAJOR REVISION (FIFTH): T+T, PDM, CODEC, DAPRO
REV.:	18859	/T+T, SEVERAL ERRORS ACC. TO DS, RT/TC CODEC
REV.:	158511	/RT, TC, EMPH HANDLING DI/DO, GAINS CONTROL: DI/DO, DETECTOR: TC/CUE-BIT, T+T: TTLOCK ETC., FS HANDLING, ERROR TYPES, COSMETICS
REV.:	218511	/DEF DI (UNLOCK), TC DOPFRAME + COLORFLAG, DEF RTSYNC
REV.:	298511	/TC SEQ, TC DISP, TC VALID, DEF VARI, TDPRES
REV.:	248601	/HISPDPDM, BULB COMMANDS CCP, TC DISPLAYS, DEF. /DIEMPH/, DEF. /RECORDXF/, VCXOHI, TERMINAL DISPLAYS
REV.:	068602	/DISPL. TYPES, TC BITS DETECTOR, TCMOD, TCSPEED, MCVASP2, C0...C3
REV.:	288605	/RT SYNC TABLE, DPCLIPP, ADCLIPP, EMPHASIS, CODEC: BYTE 70H AND BURST 4 (221 BLOCKS) AND DEF TRACKLOSS (<=1 TRK), TCMOD
REV.:	238606	/SQ-DISPLAYS (INT2/INT1 EXCHANGED), DESCRIPTION OF CODEC ERROR SIMULATION
REV.:	078610	/TDMON1...5, DESC. TC VALIDITY, PRESENT BIT MONITOR PANEL, TERMINAL DISPLAYS
REV.:	158610	/HISPD, S/R CONCEPT, MVARI
REV.:	058612	/RECCUR, LEVEL DISPLAY MODES, FADER CONCEPT, EMPHASIS, TRANSFER TO CMS
REV.:	088612	/AUXTRKFO (USE OF AUX TRACKS)
REV.:	118612	/CHANGES EMPHASIS AND FADER
REV.:	078701	/VIDEO/FILM-CLOCKS VS. FS
REV.:	138701	/HISPDPDM
REV.:	028702	/FADER START DEF., EMPH IN SINGLE TRK RECORDING, IREC
REV.:	208707	/EE1L/R, ADDR. E FOR REMOTE DP, COMMENTS
REV.:	098709	/ARPOFF, ICLRARP, HOLDARP
REV.:	128801	/NEW DEF FOR MASSA (PWRDET), ADAPT RUN PROCESSOR CONTROL DEFINITION, NEW DEF FOR RECORD CURRENT, /PWRDET/ REPLACES /LOSPD/
REV.:	088803	/NEW DEF. FOR C0...C3, TXTCMOD
REV.:	028805	/ARP FEEZE MODES, RT SEQUENCING, TCDELAY, DIAGNOSTIC SCREENS, C0...C3, INTIALZATION OF WRITE AMPLIFIER
REV.:	078806	/DEF. REHEARSE & EE1, DEF. TCDELAY
REV.:	158806	/TC DELAYS
REV.:	288806	/EMPHASIS HANDLING (PLAY MODE + DI, CONSUMER MODE)
REV.:	218809	/FS SELECTION FOR TC OUTPUT DELAY /FSTC/
REV.:	118810	/DEF. TTLOCK
REV.:	248901	/REVISED DEF. OF RT SYNC, DIAGNOSTIC SCREEN 4 (SH R)
REV.:	148903	/DEF. MASTERING DELAY

ERROR TYPES:	A	TEMPORARILY DISPLAYED	(TOGETHER WITH ERROR)
	B	WITH ACKNOWLEDGE	(PRESS "STORE")
	C	REMAINING MESSAGE	(NEEDS NEW POWER-UP)

WARNING TYPES: NOT IMPLEMENTED.

3.1
ELECTRONICS CAGE 1.861.300

3.1.1
DETECTOR 1.861.804/1.861.809

COBUS: RX, TX (8BTRMEX, 8BRECEX)

THIS BOARD SUPPLIES	- PB AMPLIFIER	1.861.801/1.861.808
	- TD MONITOR	1.861.802
	- WRITE AMPLIFIER	1.861.803

OVERVIEW OF ALL COMMANDS LISTED IN THIS SECTION:

POS	BITS	COMMAND	DESCRIPTION
1	1	SAFECH1	SAFE TRK 1A,2A,3A,4A ENABLE WITH SAFE/READY
2	1	SAFECH2	SAFE TRK 1B,2B,3B,4B ENABLE WITH SAFE/READY
3	1	SAFEAUX1	SAFE AUX1 (TC) ENABLE WITH SAFE/READY
4	1	SAFEAUX2	SAFE AUX2 (RT) AS POS 1,2 EXCEPTION: SEE $
5	1	SAFEAUX3	SAFE AUX3 (CUE R,EXT), SEE $$
6	1	SAFEAUX4	SAFE AUX4 (CUE L,MIX) SIMILAR TO POS. 1,2
7	1	MASSA	MASTER SAFE, AFFECTS ALL TRACKS, ENABLES K
8	8	RECCUR	RECORD CURRENT, RELATIVE CURRENT
9	1	TDSMUTE	TAPE DECK SPEAKER MUTED
10	2	EE1	EE LOOP 1, WRITE AMPLIFIER TO DETECTOR
11	1	TDMON1	INPUT/TAPE
12	1	TDMON2	TC
13	1	TDMON3	DIGITAL/CUE
14	1	TDMON4	1/MIX
15	1	TDMON5	2/AUX
16	1	PRESENT	DETECTOR PRESENT
17	1	PWRDET	POWER-DOWN/UP K FOR COMPARATORS ON DETECTOR
18	1	HISPD	AUX 1,3,4: REDUCED GAIN (TS >50cm/sec.)
19	1	TDMPRES	TAPE DECK MONITOR PRESENT
20	4	C0...3	RESONATOR SELECTION ACC. TO MOD/UNMOD/HISPD

KEYBOARD TAPE DECK MONITOR:

	INPUT		DIGITAL		
*	*	*	*	*	*
VOLUME	TAPE	TC	CUE	1/MIX	2/AUX

NOTES: POS. 1,2 CONTROLLED BY MASTER SAFE, REHEARSE AND SAFE/READY

$ RT W AFTER TIME DELAY IF REC AND NO RT R (MESSAGE TO LCD) POS. 4 CONTROLLED BY MASTER SAFE, REHEARSE, RT SYNC AND SAFE/READY CONFIGURATION.

$$ SIMILAR TO POS. 1,2 IF NO MIX. IF MIX: ACCORDING TO SAFE/READY CONFIGURATION.

TX ONLY (FROM TD MONITOR):

TDMON1...5, PRESENT

				MSB							
BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
1 (10H)	TDMON1	TAPE, ELSE INPUT		X	X	X	X	X	X	X	0
	TDMON2	TC, ELSE INPUT OR TAPE		X	X	X	X	X	X	0	X
	TDMON3	CUE, ELSE DIGITAL		X	X	X	X	X	0	X	X
	TDMON4	CH1 OR MIX ON, ELSE OFF		X	X	X	X	0	X	X	X
	TDMON5	CH2 OR AUX ON, ELSE OFF		X	X	X	0	X	X	X	X
	PRESENT	DETECTOR PRESENT		0	X	X	X	X	X	X	X
	TDMPRES	TAPE DECK MONITOR PRESENT		X	0	X	X	X	X	X	X

WRITE AMPLIFIER 1.861.803

POS	BITS	COMMAND	DESCRIPTION
1	1	SAFECH1	SAFE TRK 1A,2A,3A,4A ENABLE WITH SAFE/READY
2	1	SAFECH2	SAFE TRK 1B,2B,3B,4B ENABLE WITH SAFE/READY
3	1	SAFEAUX1	SAFE AUX1 (TC) ENABLE WITH SAFE/READY
4	1	SAFEAUX2	SAFE AUX2 (RT) AS POS 1,2 EXCEPTION: SEE $
5	1	SAFEAUX3	SAFE AUX3 (CUE R,EXT), SEE $$
6	1	SAFEAUX4	SAFE AUX4 (CUE L,MIX) SIMILAR TO POS. 1,2
7	1	MASSA	MASTER SAFE, AFFECTS ALL TRACKS, ENABLES K
8	8	RECCUR	RECORD CURRENT

MASSA, SAFEAUX1...4, SAFECH1,2

BYTE NO	SIG NAME	DESCRIPTION BITS	MSB 7	6	5	4	3	2	1	0
1 (11H)	SAFECH1	SAFE CH 1	X	X	X	X	X	X	X	1
	SAFECH2	SAFE CH 2	X	X	X	X	X	X	1	X
	SAFEAUX1	SAFE AUX 1 (TC)	X	X	X	X	X	1	X	X
	SAFEAUX2	SAFE AUX 2 (RT)	X	X	X	X	1	X	X	X
	SAFEAUX3	SAFE AUX 3 (CUE R, EXT)	X	X	X	1	X	X	X	X
	SAFEAUX4	SAFE AUX 4 (CUE L, MIX)	X	X	1	X	X	X	X	X
	MASSA	MASTER SAFE, ALL TRKS, K ENABLED ($)	X	1	X	X	X	X	X	X

RECCUR

BYTE NO	SIG NAME	DESCRIPTION BITS	MSB 7	6	5	4	3	2	1	0
2 (13H)	RECCUR	RECORD CURRENT: MIN OFFSET (-44)	0	0	0	0	0	0	0	0
		RECORD CURRENT: NO OFFSET (0)	0	0	1	0	1	1	0	0
		RECORD CURRENT: MAX OFFSET (+88)	1	0	0	0	0	1	0	0

NOTE: DEFINITION OF SAFE/READY CONCEPT SEE PAR. 5.

NOTE $: DEFINITION OF /MASSA/: /MASSA/ IS HI (K ENABLED) IN ALL TAPE DECK MODES EXCEPT RECORD MODE, IF AND ONLY IF THE COMMAND "MASTERSAFE" IS NOT ACTIVATED. OTHERWISE, /MASSA/ IS ALWAYS HI.

NOTE ON INITIALIZATION OF WRITE AMPLIFIER:
SYSCON TRANSMITS DATA BFH AND FFH TO ADDRESS 11H DURING INITIALIZATION (EXACT TIME NOT CRITICAL). WHEN HARDWARE READS BOTH ADDRESSES, THE MASTERSAFE RELAY AND THE WRITE PULSES TO THE HEAD ARE ENABLED IN PRINCIPLE, HOWEVER, DUE TO DATA BFH & FFH, THE WRITE AMPLIFIER IS STILL IN SAFE MODE. FROM THIS MOMENT, BYTE 11H IS UNDER SOFTWARE CONTROL. BEFORE, PROTECTION CIRCUITRY HAS PREVENTED THE HEAD FROM ACCIDENTALLY APPLIED CURRENT WHICH COULD CAUSE DEGRADED DATA DURING POWER-UP. WRITE AMPLIFIERS WITH REVISION LEVEL -21 MAY BE ACTIVE ON CERTAIN TRACKS DURING THE SHORT TIME BEFORE BYTE BFH HAS BEEN TRANSMITTED AND COULD CAUSE DEGRADED DATA AFTER MULTIPLE POWER-UP'S AT THE SAME SPOT ON TAPE.

PB AMPLIFIER 1.861.801/808

POS	BITS	COMMAND	DESCRIPTION
1	1	PWRDET	POWER-DOWN/UP K FOR COMPARATORS ON DETECTOR
2	1	HISPD	AUX 1,3,4: REDUCED GAIN (TS >50cm/sec.)
3	4	C0...3	RESONATOR SELECTION ACC. TO MOD/UNMOD/HISPD

PWRDET, HISPD, C0...3

BYTE NO	SIG NAME	DESCRIPTION BITS	MSB 7	6	5	4	3	2	1	0
3 (17H)	PWRDET	POWER-DOWN MODE (NOTE $$)	X	X	X	X	X	X	1	X
	HISPD	GAIN ADJUSTED FOR TS >50cm/sec.	X	X	X	X	X	1	X	X
	C0	UNMODULATED, HIGHSPEED (>50cm/sec.)	X	1	1	1	0	X	X	X
	C1	UNMODULATED, LOWSPEED (<=50cm/sec.)	X	1	1	0	1	X	X	X
	C2	MODULATED, HIGHSPEED (>50cm/sec.)	X	1	0	1	1	X	X	X
	C3	MODULATED, LOWSPEED (<=50cm/sec.)	X	0	1	1	1	X	X	X
		C		3	2	1	0			

TABLE FOR C0...C3 AND HISPD:

HISPD	C0	C1	C2	C3	PLAINTEXT
1	0	1	1	1	UNMODULATED, HIGHSPEED
0	1	0	1	1	UNMODULATED, LOWSPEED
1	1	1	0	1	MODULATED, HIGHSPEED
0	1	1	1	0	MODULATED, LOWSPEED

C0, C1, C2, C3: ACTIVE LOW

NOTE $$: POWER-DOWN MODE IF NOT PLAY AND/OR RECORD MODE.

DETECTOR 1.861.804/809

POS	BITS	COMMAND	DESCRIPTION
1	1	EE1L	EE LOOP 1, CH1, LEFT MAIN CHANNEL (S. DEF. BEL.)
2	1	EE1R	EE LOOP 1, CH2, RIGHT MAIN CHANNEL (S. DEF. BEL.)

EE1L, EE1R				MSB							
BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
1 (11H)	EE1R	EE LOOP 1 ON, CH 2		0	X	X	X	X	X	X	X
3 (17H)	EE1L	EE LOOP 1 ON, CH 1		0	X	X	X	X	X	X	X

TD MONITOR 1.861.802

POS	BITS	COMMAND	DESCRIPTION
1	1	TDSMUTE	TAPE DECK SPEAKER MUTED, SEE $$$

TDSMUTE				MSB							
BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
3 (17H)	TDSMUTE	TAPE DECK SPEAKER MUTED, SEE $$$		X	X	X	X	X	X	X	0

NOTE $$$: MONITOR SPEAKER MUTING MODES:
1 POWER-UP
2 MAINMUTE
3 SPEAKER OFF/ON

FOR DEF. OF MUTING MODES WITH FADER START SEE PAR. 6 MONITOR PANEL
FOR DEF. OF AUTOMUTE, AUTOEDIT, AUTOINPUT SEE PAR. 4.1 PDM CONTROL

DEF. OF REHEARSE, EE2 AND EE1:

1. REHEARSE IS MADE WITH EE4. SINGLE CHANNEL OPERATION POSSIBLE, LOCAL & REMOTE. CONTROLLED BY INPUT/REPRO/SAFE /READY KEYS. DELAYS: 1.5 WORDS INPUT PLUS 6.5 WORDS OUTPUT. AUDIBLE CLICKS MAY OCCUR UNDER EDITOR CONTROL, WHEN PATTERNS DO NOT MATCH (NO CROSSFADE CAPABILITIES IN EE4).
2. EE2: USED FROM REMOTE PORTS. ASCII COMMANDS SRH AND CRH ARE INTERPRETED AS EE2 ENABLE/DISABLE. STEREO OPERATION ONLY! DELAYS:
   INPUT = 5 BLOCKS + 1.5 WORDS + (161.5 BLOCKS AVERAGE ENCODING)
   OUTPUT= 77 BLOCKS + 6.5 WORDS + (161.5 BLOCKS AVERAGE DECODING).
   NO LOCAL OPERATION PROVIDED. RED LED "TEST" ILLUMINATED WHEN EE2 IS ACTIVATED EITHER FROM TERMINAL (SYSCON PORT) OR LOCAL (TEST MENU), OTHERWISE (FROM SERIAL REMOTE PORTS): NOT ILLUMINATED.

3. EE1: TEST LOOP ONLY. LOCAL AND REMOTE CONTROL. ADAPTIVE RUN PROCESSOR IN TRANSPARENT MODE (/ARPOFF/). SINGLE CHANNEL OPERATION POSSIBLE WITH RESTRICTED CAPABILITIES (DANGEROUS!). /RTSYNC/ MANDATORY WHEN OFF-TAPE DATA IS INVOLVED. PRINCIPALLY, TBC CONTROL SIMULTANEOUSLY BOTH FROM TAPE AND DIRECT VIA EE1 IS NOT POSSIBLE. WRITE AND READ BLOCKADDRESSES DO NOT MATCH WHEN EXCESSIVE SPEED DEVIATIONS OCCUR (I.E. DURING START-UP AND STOP). GLOBAL COMMAND EE1 FROM TERMINAL OR MENU AFFECTS BOTH CHANNELS. EE1L AND EE1R ARE NOT ACCESSIBLE TO USERS FROM PERIPHERY. "SEND" COMMANDS TO BYTES 11 AND 17 ARE REQUIRED. RED LED "TEST" ILLUMINATED IF EE1 ACTIVATED FROM PERIPHERY OR LOCAL. MORE INFO: REF. TO /RTSYNC/ AND PAR. "SINGLE CHANNEL RECORDING".

3.2
DISPLAY PANEL, REMOTE DISPLAY PANEL 1.861.555

3.2.1
DISPLAY PROCESSOR 1.861.742

COBUS: RX, TX (8BRECEX, 8BTRMEX)
THIS BOARD SUPPLIES - KEYBOARD DISPLAY 1.861.741
- DISPLAY IF 1.861.817

OVERVIEW OF ALL COMMANDS LISTED IN THIS SECTION:

POS	BITS	COMMAND	DESCRIPTION
1	8	TIMEINF0	VALUE OF TIMER DISPLAY (PROCESSED, BCD), A
2	8	TIMEINF1	VALUE OF TIMER DISPLAY (PROCESSED, BCD), F
3	8	TIMEINF2	VALUE OF TIMER DISPLAY (PROCESSED, BCD), F
4	8	TIMEINF3	VALUE OF TIMER DISPLAY (PROCESSED, BCD), F
5	8	TIMEINF4	VALUE OF TIMER DISPLAY (PROCESSED, BCD), S
6	8	TIMEINF5	VALUE OF TIMER DISPLAY (PROCESSED, BCD), S
7	8	TIMEINF6	VALUE OF TIMER DISPLAY (PROCESSED, BCD), M
8	8	TIMEINF7	VALUE OF TIMER DISPLAY (PROCESSED, BCD), M
9	8	TIMEINF8	VALUE OF TIMER DISPLAY (PROCESSED, BCD), H
10	8	TIMEINF9	VALUE OF TIMER DISPLAY (PROCESSED, BCD), H
11	8	DPGAINL	GAIN INFO LEFT
12	8	DPGAINR	GAIN INFO RIGHT
13	8	DPLVLCH1	LEVEL DISPLAY CH1
14	8	DPLVLCH2	LEVEL DISPLAY CH2
15	2	DPCLIPP	CLIPPING INFORMATION
16	8	QUALDISL	SIGNAL QUALITY DISPLAY DATA (PROCESSED), LEFT
17	8	QUALDISR	SIGNAL QUALITY DISPLAY DATA (PROCESSED), RIGHT
18	6	BULBSTA1	STATUS DISPLAY PANEL LAMPS
19	6	BULBSTA2	STATUS DISPLAY PANEL LAMPS
20	8	KEYSTAT1	STATUS OF DISPLAY PANEL KEYS
21	6	KEYSTAT2	STATUS OF DISPLAY PANEL KEYS
22	1	PRESENT	DISPLAY PANEL PRESENT

POS 1...10: FORMATTING TIMER INFORMATION:

TIMEINF:	0	9	8	7	6	5	4	3	2	1
INDICATION:	A	I	H1	M2	M1	S2	S1	F3	F2	F1
ADDRESSES:	49	47	45	43	41	39	37	35	33	31

I = SIGN (-)
F = MSEC/FR
A = TIME MODE INDICATOR
(_) TIMER
(Ī) WATCH (LAP)
(r) RT
(t) TC

TX ONLY:

KEYSTAT1				MSB							
BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
1 (6CH)	DPTIME	KEY TIME		X	X	X	X	X	X	X	0
(ECH)	DPWATCH	KEY WATCH		X	X	X	X	X	X	0	X
	DPRESET	KEY RESET		X	X	X	X	X	0	X	X
	DPSTOP	KEY STOP		X	X	X	X	0	X	X	X
	DPHEADR	KEY HEADROOM		X	X	X	0	X	X	X	X
	DPPEAK	KEY PEAK		X	X	0	X	X	X	X	X
	DPCALG	KEY CAL GAINS		X	0	X	X	X	X	X	X
	DPUNCAL	KEY UNCAL GAINS		0	X	X	X	X	X	X	X

KEYSTAT2, PRESENT

BYTE NO	SIG NAME	DESCRIPTION	BITS MSB 7	6	5	4	3	2	1	0
2 (6AH)	PRESENT	DISPLAY PANEL PRESENT	X	X	X	X	X	X	X	0
(EAH)	DPDIGIT	KEY DIGITAL/ANALOG (ANALOG=1)	X	X	X	X	X	0	X	X
	DPINPUT	KEY INPUT/OUTPUT (OUTPUT=1)	X	X	X	X	0	X	X	X
	DPLEFT	KEY CH 1	X	X	X	0	X	X	X	X
	DPRIGHT	KEY CH 2	X	X	0	X	X	X	X	X
	DPLVLUP	KEY UP	X	0	X	X	X	X	X	X
	DPLVLDWN	KEY DOWN	0	X	X	X	X	X	X	X

NOTE: ADDRESS 6 VALID FOR INTERNAL DISPLAY PANEL, ADDRESS E FOR EXTERNAL DISPLAY PANEL (JUMPER SELECTABLE).

EXTERNAL DP HANDLING: RECEIVE ADDRESSES FOR BOTH PANELS IDENTICAL. THE LAST TX SETTING IS VALID.

RX:

TIMEINF0...9

BYTE NO	SIG NAME	DESCRIPTION	BITS MSB 7	6	5	4	3	2	1	0
1 (31H)	TIMEINF1	TIMER DIGIT F1	M	B	B	B	B	B	B	L
2 (33H)	TIMEINF2	TIMER DIGIT F2	M	B	B	B	B	B	B	L
3 (35H)	TIMEINF3	TIMER DIGIT F3	M	B	B	B	B	B	B	L
4 (37H)	TIMEINF4	TIMER DIGIT S1	M	B	B	B	B	B	B	L
5 (39H)	TIMEINF5	TIMER DIGIT S2	M	B	B	B	B	B	B	L
6 (41H)	TIMEINF6	TIMER DIGIT M1	M	B	B	B	B	B	B	L
7 (43H)	TIMEINF7	TIMER DIGIT M2	M	B	B	B	B	B	B	L
8 (45H)	TIMEINF8	TIMER DIGIT H1	M	B	B	B	B	B	B	L
9 (47H)	TIMEINF9	TIMER DIGIT I	M	B	B	B	B	B	B	L
10(49H)	TIMEINF0	TIMER DIGIT A	M	B	B	B	B	B	B	L

DPGAINL

BYTE NO	SIG NAME	DESCRIPTION	BITS MSB 7	6	5	4	3	2	1	0
11(4BH)	DPGAINL	GAIN INFO (ANA./DIGI./HEADROOM) LEFT RANGE: ANALOG GAINS=0...200 DIGITAL GAINS=0...160 HEADROOM =0...20	M	B	B	B	B	B	B	L

DPGAINR

BYTE NO	SIG NAME	DESCRIPTION	BITS MSB 7	6	5	4	3	2	1	0
12(4DH)	DPGAINR	GAIN INFO (ANA./DIGI./HEADROOM)RIGHT RANGE: ANALOG GAINS=0...200 DIGITAL GAINS=0...160 HEADROOM =0...20	M	B	B	B	B	B	B	L

NOTE: DPGAINL AND DPGAINR ARE SELECTED ACCORDING TO BULBSTA. STATUS BYTES:

ANALOG LEVELS: INPUT CH1	INPUT CH2	OUTPUT CH1	OUTPUT CH2
DIGIT. LEVELS: INPUT CH1	INPUT CH2	OUTPUT CH1	OUTPUT CH2
HEADROOM : INPUT CH1	INPUT CH2	OUTPUT CH1	OUTPUT CH2

DPLVLCH1

BYTE NO	SIG NAME	DESCRIPTION	BITS MSB 7	6	5	4	3	2	1	0
13(61H)	DPLVLCH1	LEVEL DATA CH 1 (BARGRAPH) RANGE: 00...FF	7	6	5	4	3	2	1	0

DPLVLCH2

BYTE NO	SIG NAME	DESCRIPTION	BITS MSB 7	6	5	4	3	2	1	0
14(63H)	DPLVLCH2	LEVEL DATA CH 2 (BARGRAPH) RANGE: 00...FF	7	6	5	4	3	2	1	0

LEVEL DISPLAY MODES:

A NORMAL: ACCORDING TO INPUT REPRO KEYS ON CCP.

B INPUT : AS AUTOINPUT FOR AUDIO: DISPLAY SET TO INPUT IN STOP MODE.

DPCLIPP1,2

				MSB							
BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
15(65H)	DPCLIPP1	CLIPPING INFO CH 1 ON		X	X	X	X	X	X	X	1
	DPCLIPP2	CLIPPING INFO CH 2 ON		X	X	X	X	X	X	1	X

QUALDISL

				MSB							
BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
16(67H)	QUALDISL	SIG QUAL CH1 (GRN) QP1 CORRECTION		0	0	0	0	0	0	0	1
		SIG QUAL CH1 (GRN) QP2 CORRECTION		0	0	0	0	0	0	1	0
		SIG QUAL CH1 (GRN) FINGERPRINT		0	0	0	0	0	1	0	0
		SIG QUAL CH1 (GRN) TRACKLOSS		0	0	0	0	1	0	0	0
		SIG QUAL CH1 (YEL) INTERPOLATION 2		0	0	0	1	0	0	0	0
		SIG QUAL CH1 (YEL) INTERPOLATION 1		0	0	1	0	0	0	0	0
		SIG QUAL CH1 (RED) MUTE		0	1	0	0	0	0	0	0
		SIG QUAL CH1 (RED) NO DATA		1	0	0	0	0	0	0	0

QUALDISR

				MSB							
BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
17(69H)	QUALDISR	SIG QUAL CH2 (GRN) QP1 CORRECTION		0	0	0	0	0	0	0	1
		SIG QUAL CH2 (GRN) QP2 CORRECTION		0	0	0	0	0	0	1	0
		SIG QUAL CH2 (GRN) FINGERPRINT		0	0	0	0	0	1	0	0
		SIG QUAL CH2 (GRN) TRACKLOSS		0	0	0	0	1	0	0	0
		SIG QUAL CH2 (YEL) INTERPOLATION 2		0	0	0	1	0	0	0	0
		SIG QUAL CH2 (YEL) INTERPOLATION 1		0	0	1	0	0	0	0	0
		SIG QUAL CH2 (RED) MUTE		0	1	0	0	0	0	0	0
		SIG QUAL CH2 (RED) NO DATA		1	0	0	0	0	0	0	0

	QUALDISL (67H)								QUALDISR (69H)							
ADDR. :	80	40	20	10	08	04	02	01	01	02	04	08	10	20	40	80

NOTE: FOR THE COMPOSITION OF SQ-DATA SEE PAR. 3.2, CODEC CONTROL.

BULBSTA1

BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
18(6BH)	TIME	BULB TIME ON		X	X	X	X	X	X	X	1
	WATCH	BULB WATCH ON		X	X	X	X	X	X	1	X
	HEADROOM	BULB HEADROOM ON		X	X	X	1	X	X	X	X
	PEAK	BULB PEAK ON		X	X	1	X	X	X	X	X
	CALG	BULB CAL GAINS ON		X	1	X	X	X	X	X	X
	UNCALG	BULB UNCAL GAINS ON		1	X	X	X	X	X	X	X

BULBSTA2

BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
19(6DH)	ANALOG	BULB ANALOG ON		X	X	X	X	X	1	X	X
	OUTPUT	BULB OUTPUT ON		X	X	X	X	1	X	X	X
	CH1	BULB CH1 ON		X	X	X	1	X	X	X	X
	CH2	BULB CH2 ON		X	X	1	X	X	X	X	X
	DIGITAL	BULB DIGITAL ON		X	1	X	X	X	X	X	X
	INPUT	BULB INPUT ON		1	X	X	X	X	X	X	X

3.3
ELECTRONICS BOX 1.861.320.00

3.3.1
GAINS CONTROL 1.861.853.00

COBUS: RX, TX (8BRECEX, 8BTRMEX)

THIS BOARD SUPPLIES	- DAPRO-IF	1.861.854.00
	- DATA PROCESSOR	1.861.855.00
	- COEFFICIENT GENERATOR	1.861.856.00
	- ANALOG OUTPUT	1.861.751.00
	- ANALOG INPUT	1.861.752.00

OVERVIEW OF ALL COMMANDS LISTED IN THIS SECTION:

POS	BITS	COMMAND	DESCRIPTION
1	5	DPGNADRD	DIGITAL GAIN ADDRESS (MAY BE REDUCED TO 3BITS)
2	8	DPDIGGN	DIGITAL GAIN (VALUE)
3	1	MAINMUTE	HARD OUTPUT MUTE, TO ANA IN- AND OUTPUT
4	1	REPMUTE1	REPRO OUTPUT MUTE (SOFT), CH 1
5	1	REPMUTE2	REPRO OUTPUT MUTE (SOFT), CH 2
6	1	HPFILOFF	SELECT HIGH PASS ON/OFF
7	1	EELOOP5	EE LOOP 5, BEFORE DAPRO
8	1	ADCAES	SELECT INPUT FROM ADC OR DIGITAL INPUT
9	1	PREVIEW	SELECT PREVIEW DELAY/NORMAL (NORMAL OUTPUT)
10	1	EMPHASIS	EMPHASIS ON/OFF, TO ANA IN- AND OUTPUT AND DO
11	1	DISREP1	DISPLAY SELECT (1=REPRO, 0=INPUT), CH 1
12	1	DISREP2	DISPLAY SELECT (1=REPRO, 0=INPUT), CH 2
13	2	DPCLIPP	DIGITAL CLIPPING INFORMATION
14	8	DPLVLCH1	LEVEL DISPLAY CH1
15	8	DPLVLCH2	LEVEL DISPLAY CH2
16	1	PRESENT	GAINS CONTROL PRESENT
17	2	PUNCH	PUNCH FADER (TOGGLE FUNCTION), CH1/2 (NOTE #)
18	8	QUALITY	SIGNAL QUALITY INFO (INT1/2, MUTE, SPLICE)
19	8	DIEMPH	AES/EBU BYTE 00 TO SYSCON, DIGITAL INPUT
20	8	DDEMPH	AES/EBU BYTE 00 FROM SYSCON, DIGITAL OUTPUT
21	1	DAPROSYN	SYNC FOR DAPRO IF AND DATA PROCESSOR
22	1	AESPLL	DIGITAL INPUT PLL LOCK/UNLOCK
23	1	TSHI/LO	TAPE SPEED (LO=32kHz) TO AES PLL
24	2	ADCLIPP	CLIPPING INFORMATION ANALOG INPUT
25	1	INSERT	ANALOG MASTERING: DELAY INSERTION

COMMAND SEQUENCING:

- GAIN: FIRST 2 BYTES: AAAA SSSI GGGGGGGG
SECOND 2 BYTES: AAAA TTTI DDDDDDDD
A = DEVICE ADDRESS (ALWAYS 5H)
S = SUBDEVICE ADDRESS
I = LO, IF TX (RELATED TO HARDWARE)
G = GAIN ADDRESS, ADDRESSES GAIN BLOCK (00H, 01H, 02H, 10H, 11H, 12H), DPGNADRD
T = (SUBDEVICE ADDRESS + 1)
D = LEVEL DATA, RANGE 40...255), DPDIGGN

EXAMPLE:

FIRST 2 BYTES:	57H	00H
SECOND 2 BYTES:	59H	DFH

NOTE: DIGITAL REPRO CH1 OR CH2 (02H, 12H) AND DIGITAL SYNC CH1 OR CH2 (01H, 11H) TO BE ADDRESSED SIMULTANEOUSLY IN ORDER TO ADJUST DIGITAL OUTPUT GAINS.

NOTE: POS. 14 DISREP1/2: DEPENDING ON PLAY STATUS. THEN TO REPRO, ELSE INPUT.

NOTE: COMMANDS /SPOTERAS/, /3HEAD/ ARE HARDWIRED IN D820X. /3HEAD/ IS IMPLEMENTED.

NOTE #: /PUNCH/ IS STILL HARDWIRED BUT NOT USED IN D820X.

TX ONLY:

DPLVLCH1

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
1 (50H)	DPLVLCH1	LEVEL DATA CH 1 (BARGRAPH)		7	6	5	4	3	2	1	0

DPLVLCH2

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
2 (52H)	DPLVLCH2	LEVEL DATA CH 2 (BARGRAPH)		7	6	5	4	3	2	1	0

DPCLIPP, PRESENT

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
3 (54H)	DPCLIPP1	CLIPPING INFO CH 1 ON (DIGITAL)		X	X	X	X	X	X	X	1
	DPCLIPP2	CLIPPING INFO CH 2 ON (DIGITAL)		X	X	X	X	X	X	1	X
	AESPLL	AES PLL UNLOCK		X	X	X	X	1	X	X	X
	PRESENT	GAINS CONTROL PRESENT		X	X	X	X	X	0	X	X

QUALITY

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
4 (56H)	QUALITY	MUTING ON CH 1		X	X	X	X	X	1	X	X
		SPLICE ON CH 1		X	X	X	X	1	X	X	X
		INTERPOLATION 2ND GRADE CH 1		X	X	X	X	X	X	X	1
		INTERPOLATION 1ST GRADE CH 1		X	X	X	X	X	X	1	X
		MUTING ON CH 2		X	1	X	X	X	X	X	X
		SPLICE ON CH 2		1	X	X	X	X	X	X	X
		INTERPOLATION 2ND GRADE CH 2		X	X	X	1	X	X	X	X
		INTERPOLATION 1ST GRADE CH 2		X	X	1	X	X	X	X	X

NOTE: /SPLICE/ IS NOT SHOWN ON THE SIGNAL QUALITY DISPLAY. TO BE DISPLAYED ON THE TERMINAL ONLY.

DIEMPH

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
5 (58H)	DIEMPH	AUDIO CHANNEL STATUS BYTE 00		0	1	2	3	4	5	6	7

BYTE 00:
BIT 00 : 0 = CONSUMER / 1 = PROFESSIONAL USE
BIT 01 : 0 = NORMAL / 1 = NON-AUDIO
BITS 234 : EMPH., DEFINED IN PAR. 3.3, EMPH. HANDLING
BIT 05 : 0 = SOURCE FS LOCKED / 1 = SOURCE FS UNLOCKED
BITS 67 : FS, DEFINED IN PAR. 3.4, FS HANDLING

NOTE: BIT 0: IF SET LO (CONSUMER): NEGLECT FURTHER INFO.
BIT 1: NOT CONSIDERED IN D820X.
BIT 5: IF SET HI: SEND /MAINMUTE/ TO PROTECT ANALOG OUTPUTS AND DISPLAY ERROR MESSAGE TYPE A, LED "ERROR" FLASHING, LED "EXT. SYNC" DARK, MESSAGE "DI UNLOCK".

ADCLIPP

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
6 (5AH)	ADCLIPP1	CLIPPING INFO ANALOG INPT CH 1 ON		X	X	X	X	X	X	X	1
	ADCLIPP2	CLIPPING INFO ANALOG INPT CH 2 ON		X	X	X	X	X	X	1	X

RX:

DDEMPH				MSB							
BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
1 (51H)	DDEMPH	AUDIO CHANNEL STATUS BYTE 00		0	1	2	3	4	5	6	7

BYTE 00:
BIT 00 : SET HI (PROFESSIONAL USE)
BIT 01 : SET LO (NORMAL AUDIO MODE)
BITS 234 : SET AS DEFINED IN PAR. 3.3, EMPH. HANDLING
BIT 05 : SET ACCORDING TO /TTLOCK/ OR VARISPEED, LO = SOURCE SAMPLING FREQUENCY LOCKED
BITS 67 : SET AS DEFINED IN PAR. 3.4, FS HANDLING

NOTE: V = AUDIO SAMPLE VALIDITY SET LO IN TRANSMITTER (VALID)
U = USER DATA BIT SET LO IN TRANSMITTER (DEFAULT)

PREVIEW,ADCAES,EELOOP5,HPFILOFF,REPMUTE1,REPMUTE2,MAINMUTE,DAPROSYN

BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
2 (53H)	PREVIEW	NORMAL OUTPUT DELAYED		1	X	X	X	X	X	X	X
	ADCAES	DIGITAL INPUT (AS DEF IN T+T, 85H)		X	1	X	X	X	X	X	X
	EELOOP5	EE LOOP 5 OFF		X	X	1	X	X	X	X	X
	HPFILOFF	HIGHPASS FILTER OFF		X	X	X	1	X	X	X	X
	REPMUTE2	REPRO OUTPUT MUTED, CH 2		X	X	X	X	1	X	X	X
	REPMUTE1	REPRO OUTPUT MUTED, CH 1		X	X	X	X	X	1	X	X
	MAINMUTE	ALL OUTPUTS ON		X	X	X	X	X	X	1	X
	DAPROSYN	SYNC MODE FOR DAPRO IF + PROC ON		X	X	X	X	X	X	X	0

NOTE: DAPROSYN EXECUTES ON RISING EDGE.

NOTE: FOR A DEFINITION OF /ADCAES/ SEE NOTE AFTER BYTE 3 (85H) IN PAR. 3.3.

DISREPRO, EMPHASIS, PUNCH, TSHI/LO, INSERT

BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
3 (55H)	DISREP1	DISPLAY TO REPRO CH 1, ELSE INPUT		X	X	X	1	X	X	X	X
	DISREP2	DISPLAY TO REPRO CH 2, ELSE INPUT		X	X	1	X	X	X	X	X
	EMPHASIS	EMPHASIS FOR AI, AO ON, ELSE OFF		X	X	X	X	X	1	X	X
	PUNCH	FADER CH1 TO INPUT		X	X	X	X	X	X	1	X
	PUNCH	FADER CH2 TO INPUT		X	X	X	X	X	X	X	1
	TSHI/LO	TAPE SPEED HI (48, 44.1, 44.1/1.001)		X	1	X	X	X	X	X	X
	INSERT	MASTERING MODE ON, ELSE OFF		0	X	X	X	X	X	X	X

NOTE: /PUNCH/ NOT USED ANYMORE IN D820X.

COMMAND /INSERT/: MENU STRUCTURE IN "KEY MODE SETTINGS AUDIO / KEYS/MODE":

064 IGNORE DI C WORD	Y/N
065 MASTERING ON	Y/N
070 TEST	ON/OFF

SEND COMMAND /INSERT/, DO NOT INDICATE "EXTERNAL SYNC MODE"

DPGNADRD

BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
5 (57H)	DPGNADRD	DAPRO GAIN ADDRESS(BIT4=MSB)SEE LIST		X	X	X	M	B	B	B	L

DPDIGGN

BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
6 (59H)	DPDIGGN	DAPRO GAIN DATA (BIT7=MSB)		M	B	B	B	B	B	B	L

ANALOG INPUT 1.861.752.00
ANALOG OUTPUT 1.861.751.00

MAINMUTE, EMPHASIS

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
2 (53H)	MAINMUTE	ALL OUTPUTS ON		X	X	X	X	X	X	1	X
3 (55H)	EMPHASIS	EMPHASIS ON		X	X	X	X	X	1	X	X

PUNCH-XFADE TIME DATA (HEX)	ACTUAL TIME @44.1 msec.	ACTUAL TIME @48kHz msec.
0	ca. 0	ca. 0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
A	10	10
B	11	11
C	12	12
D	13	13
E	14	14
F	15	15
10	16	16
11	17	17
12	18	18
13	19	19
14	20	20
15	21	21
16	22	22
17	23	23
18	24	24
19	25	25
1A	26	26
1B	27	27
1C	28	28
1D	29	29
1E	30	30
1F	31	31
20	32	32
21	33	33
22	34	34
23	35	36
24	37	38
25	39	40
26	41	43
27	44	46
28	47	49
29	50	53
2A	53	57
2B	57	62
2C	62	68
2D	68	76
2E	74	85
2F	83	98
30	93	114
31	106	137
32	124	171
33	149	228
34	186	341
35	248	683
36	372	inf.
37	743	n.u.
38	inf.	n.u.
39	n.u.	n.u.
3A	n.u.	n.u.
3B	n.u.	n.u.
3C	n.u.	n.u.
3D	n.u.	n.u.
3E	n.u.	n.u.
3F	n.u.	n.u.

GAIN ADDRESS (HEX)	SELECTED LOCATION
0	INPUT CH 1
1	SYNC CH 2
2	REPRO CH 2
3	DO NOT CHANGE
4	DO NOT CHANGE
5	DO NOT CHANGE
6	DO NOT CHANGE
7	DO NOT CHANGE
8	DO NOT CHANGE
9	DO NOT CHANGE
A	DO NOT CHANGE
B	DO NOT CHANGE
C	DO NOT CHANGE
D	DO NOT CHANGE
E	DO NOT CHANGE
F	DO NOT CHANGE
10	INPUT CH 2
11	SYNC CH 1
12	REPRO CH 1
13	DO NOT CHANGE
14	DO NOT CHANGE
15	DO NOT CHANGE
16	DO NOT CHANGE
17	DO NOT CHANGE
18	DO NOT CHANGE
19	DO NOT CHANGE
1A	DO NOT CHANGE
1B	DO NOT CHANGE
1C	DO NOT CHANGE
1D	DO NOT CHANGE
1E	DO NOT CHANGE
1F	DO NOT CHANGE

3.3.2
CODEC CONTROL 1.861.857.00

COBUS: RX, TX (2BRECTRMEX)

ADDRESSES: TX=70H, RX=71H

THIS BOARD SUPPLIES - CODEC MEMORY 1.861.858.00

RX:

HEX	7	6	5	4	3	2	1	0	
88	1	X	X	X	1	X	X	X	SYSCON REQUIRES SQ-DISP. DATA ($)
F7	1	1	1	1	0	1	1	1	SYSCON REQUIRES CRC FROM TRK8 ($$)
F6	1	1	1	1	0	1	1	0	SYSCON REQUIRES CRC FROM TRK7 ($$)
F5	1	1	1	1	0	1	0	1	SYSCON REQUIRES CRC FROM TRK6 ($$)
F4	1	1	1	1	0	1	0	0	SYSCON REQUIRES CRC FROM TRK5 ($$)
F3	1	1	1	1	0	0	1	1	SYSCON REQUIRES CRC FROM TRK4 ($$)
F2	1	1	1	1	0	0	1	0	SYSCON REQUIRES CRC FROM TRK3 ($$)
F1	1	1	1	1	0	0	0	1	SYSCON REQUIRES CRC FROM TRK2 ($$)
F0	1	1	1	1	0	0	0	0	SYSCON REQUIRES CRC FROM TRK1 ($$)
BX	1	X	1	1	X	X	X	X	REPRO CH2 + CH1
AX	1	X	1	0	X	X	X	X	REPRO CH2, INPUT CH1
9X	1	X	0	1	X	X	X	X	REPRO CH1, INPUT CH2
8X	1	X	0	0	X	X	X	X	INPUT CH2 + CH1
7X	0	1	1	1	X	X	X	X	EELOOP 3, NO ERROR
6X	0	1	1	0	X	X	X	X	- - -
5X	0	1	0	1	X	X	X	X	EELOOP 3, WRITE ERRORS
									WRITE ERRORS (5E...50):
5E	0	1	0	1	1	1	1	0	LONG BURST, MOST TRKS,SPLICE,L
5D	0	1	0	1	1	1	0	1	LONG BURST, MOST TRKS,SPLICE,R
5C	0	1	0	1	1	1	0	0	LONG BURST, MOST TRKS,SPLICE,R,L
5A	0	1	0	1	1	0	1	0	SHORT BURST,MOST TRKS,SPLICE,L
59	0	1	0	1	1	0	0	1	SHORT BURST,MOST TRKS,SPLICE,R
58	0	1	0	1	1	0	0	0	SHORT BURST,MOST TRKS,SPLICE,R,L
56	0	1	0	1	0	1	1	0	LONG BURST,SINGLE TRK,TL WRI,L
55	0	1	0	1	0	1	0	1	LONG BURST,SINGLE TRK,TL WRI,R
54	0	1	0	1	0	1	0	0	LONG BURST,SINGLE TRK,TL WRI,R,L
52	0	1	0	1	0	0	1	0	SHORT BURST,SINGLE TRK,P1 COR,L
51	0	1	0	1	0	0	0	1	SHORT BURST,SINGLE TRK,P1 COR,R
50	0	1	0	1	0	0	0	0	SHORT BURST,SINGLE TRK,P1 COR,R,L
4X	0	1	0	0	X	X	X	X	EELOOP 3, READ ERRORS
									READ ERRORS (4F...40):
4F	0	1	0	0	1	1	1	1	BURST 4, R, L, ALL TRACKS
4E	0	1	0	0	1	1	1	0	BURST 3, R, L, ALL TRACKS
4D	0	1	0	0	1	1	0	1	BURST 4, R, L, UPPER HALF OF TRKS
4C	0	1	0	0	1	1	0	0	BURST 3, R, L, UPPER HALF OF TRKS
4B	0	1	0	0	1	0	1	1	- - -
4A	0	1	0	0	1	0	1	0	TRACKLOSS 3, L
49	0	1	0	0	1	0	0	1	TRACKLOSS 2, L
48	0	1	0	0	1	0	0	0	TRACKLOSS 1, L
47	0	1	0	0	0	1	1	1	BURST 2, R, L, ALL TRACKS
46	0	1	0	0	0	1	1	0	BURST 1, R, L, ALL TRACKS
45	0	1	0	0	0	1	0	1	BURST 2, R, L, UPPER HALF OF TRKS
44	0	1	0	0	0	1	0	0	BURST 1, R, L, UPPER HALF OF TRKS
43	0	1	0	0	0	0	1	1	- - -
42	0	1	0	0	0	0	1	0	TRACKLOSS 3, R
41	0	1	0	0	0	0	0	1	TRACKLOSS 2, R
40	0	1	0	0	0	0	0	0	TRACKLOSS 1, R

WRITE ERRORS:			READ ERRORS:		
50	R L)	OVERWRITE DROPOUT:	40	R	trackloss 1
51	R)	single track, short	41	R	trackloss 2
52	L)	burst, second pass	42	R	trackloss 3
		q correction	43	R	(muting)
54	R L)		44	R L	burst 1,upper half of tracks
55	R)		45	R L	burst 2,upper half of tracks
56	L)		46	R L	burst 1, all tracks
			47	R L	burst 2, all tracks
58	R L)	SINGLE SPLICE	48	L	trackloss 1
59	R)	most tracks, short	49	L	trackloss 2
5A	L)	burst	4A	L	trackloss 3
			4B	L	(muting)
5C	R L)	DOUBLE SPLICE WITH	4C	R L	burst 3,upper half of tracks
5D	R)	SHORTEST DISTANCE	4D	R L	
5E	L)	(221 BLOCKS), most	4E	R L	burst 3, all tracks
		tracks, long burst	4F	R L	

ABBREVIATIONS:

R = RIGHT CHANNEL (CH 2)
L = LEFT CHANNEL (CH 1)
TL = TRACKLOSS
P1 = FIRST PASS P CORRECTION
COR = CORRECTION
TRK(S) = TRACK(S)

NOTES: ($) TERMINAL (COUNTER) DISPLAY DISABLED. SQ-DISPLAY ONLY.
($ $) TERMINAL (COUNTER) DISPLAY ONLY. SQ-DISPLAY DISABLED.

DESCRIPTION OF:
TRACKLOSS 1: 1 TRACK MISSING
TRACKLOSS 2: 2 TRACKS MISSING, CAUSES INT2 (NOTE $)
TRACKLOSS 3: 3 TRACKS MISSING, CAUSES INT1 (NOTE $$)

BURST 1, UPPER HALF OF TACKS: 85 BLOCKS
BURST 2, UPPER HALF OF TACKS: 204 BLOCKS
BURST 3, UPPER HALF OF TACKS: 272 BLOCKS

BURST 1, ALL TRACKS: 85 BLOCKS (FINGERPRINT)
BURST 2, ALL TRACKS: 204 BLOCKS (MAX. FINGERPRINT)
BURST 3, ALL TRACKS: 272 BLOCKS (MUTE)

SHORT BURST: 4 BLOCKS
LONG BURST : 221 BLOCKS

NOTE $: DUE TO THE TWIN MATRICING 1 SAMPLE OUT OF 4 IS MISSING
NOTE $$: DUE TO THE TWIN MATRICING 2 SAMPLES OUT OF 4 ARE MISSING

TX (RX BIT 7 AND BIT 3 SET HIGH)

SYSCON REQUIRES SQ-DISPLAY DATA

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
1 (70H)	QP1LEFT	QP1 CORRECTION, CH1	X	X	X	X	X	X	X	0
	QP2LEFT	QP2 CORRECTION, CH1, SQ-DISPLAY	X	X	X	X	X	X	0	X
	FPLEFT	FINGERPRINT, CH1, SQ-DISPLAY	X	X	X	X	X	0	X	X
	TLLEFT	TRACKLOSS, CH1, SQ-DISPLAY	X	X	X	X	1	X	X	X
	QP1RIGHT	QP1 CORRECTION, CH2	X	X	X	0	X	X	X	X
	QP2RIGHT	QP2 CORRECTION, CH2, SQ-DISPLAY	X	X	0	X	X	X	X	X
	FPRIGHT	FINGERPRINT, CH2, SQ-DISPLAY	X	0	X	X	X	X	X	X
	TLRIGHT	TRACKLOSS, CH2, SQ-DISPLAY	1	X	X	X	X	X	X	X

TX (RX BIT 7 SET HIGH, BIT 3 SET LOW)

SYSCON RQUIRES CRC ERRORS (SPECIFY TRK)

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
1 (70H)	CCCRCERR	CRC ERRORS FROM 8BIT COUNTER TRK NO TO BE SPECIFIED WITH RX BITS 0...2	M	B	B	B	B	B	B	L

COMPOSITION OF SQ-DATA

ORIGIN	ADDR	NAME	DESCRIPTION
SYSCON	01	LOW ERROR RATE	NORMAL BEHAVIOUR
CODEC	02	QP2 CORRECTION	SECND PASS QP-PARITY CORRECTION
CODEC	04	FINGERPRINT	>=4 TRKS, T<<
CODEC	08	TRACKLOSS	>=1 TRK, T>=512 BLOCKS (1/4 SEC.)
DAPRO *	10	INTERPOLATION 2	INT 2ND GRADE (QUADRATIC)
DAPRO *	20	INTERPOLATION 1	INT 1ST GRADE (LINEAR)
DAPRO *	40	MUTE	WITH TIMEOUT 0.5 SEC.
SYSCON	80	NO DATA	AFTER TIMEOUT MUTE

NOTE *: SEE PAR. 3.1, GAINS CONTROL, BYTE 4 (56H)

	QUALDISL								QUALDISR							
ADDR.:	80	40	20	10	08	04	02	01	01	02	04	08	10	20	40	80
COLOR:	RD	RD	YL	YL	GN	GN	GN	GN	GN	GN	GN	GN	YL	YL	RD	RD
ABBR.:	ND	M	INT 1	INT 2	TL	FP	QP2	OK	OK	QP2	FP	TL	INT 2	INT 1	M	ND

HIGHER ORDER BITS ARE PRIORITY ENCODED BY SYSCON.

3.3.3
TIMING AND TEST 1.861.862.00

COBUS: RX, TX (8BTRMEX, 8BRECEX)

THIS BOARD SUPPLIES - TRANSFORMATTER 1.861.859.00

OVERVIEW OF ALL COMMANDS LISTED IN THIS SECTION:

POS	BITS	COMMAND	DESCRIPTION
1	7	MCCONW1	CONTROL WORD 1 MASTER CLOCK
2	12	MCVASP	VARISPEED COMMAND (2 BYTES)
3	6	MCCONW2	CONTROL WORD 2 MASTER CLOCK
4	1	EMPHASXF	TX TO SYSCON
5	1	PRESENT	TIMING AND TEST PRESENT
6	1	RTSYNC	SYSCON FORCES RT SYNC
7	1	TTERROR	TEST OF T+T PERFORMED, ERROR(S) DETECTED
8	1	TTLOCK	VCXO-PLL LOCKING CONDITION
9	1	RANGEOK	RECORDER OPERATES WITHIN VARISPD-RANGE
10	1	VCXOHI	SELECTS VCXO
11	3	FSSET	SET OF CRYSTALS (2 MAX.)
12	1	RECORDXF	RECORD TO XFORMATTER (NOM. SPEED)
13	1	EELOOP2	EE LOOP 2, FORMATTER-DASY
14	1	EMPHASIS	EMPHASIS WRITTEN IN BLOCKS

NOTE: TESTING PROCEDURE: CHECK OF TIMING PATTERNS. MAY BE CHECKED BY SYSCON AT ANY TIME.

NOTE:

COMMAND /3HEAD/ HARDWIRED TO 3HEAD-MODE ON TRANSFORMATTER AND TIMING + TEST.

DEF. OF /TTLOCK: IF 80H, BIT2, SET TO HI

TEST: DI ON OR OFF
IF DI OFF:

1 SET 51H, BIT5 TO HI (DO)
2 INDICATE A) ERROR MSG "VCXO-PLL OUT OF LOCK" IN LCD AND REMOTE(S)
B ERROR LED FLASHING
C FS LED'S NOT ILLUMINATED

IF DI ON:
DO 1 AND 2 ABOVE PLUS REPMUTE AND MAINMUTE

ELSE INDICATE LOCKING CONDITION, FUNCTIONAL.

TX ONLY: FROM TRANSFORMATTER:

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
1 (80H)	EMPHASXF	EMPHASIS ON (SEE NOTE $)		X	X	X	X	X	X	X	1

TX ONLY: FROM TIMING + TEST:

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
1 (80H)	TTERROR	TEST OF T+T PERFORMED, ERROR(S) DET.		X	X	X	X	X	X	1	X
	PRESENT	TIMING AND TEST PRESENT		X	X	X	X	0	X	X	X
	FSSET	SET OF CRYSTALS (2 MAX.)		M	B	L	X	X	X	X	X
	TTLOCK	VCXO-PLL OUT OF LOCK		X	X	X	X	X	1	X	X
	RANGEOK	OPERATING RANGE WITHIN 27...55kHz		X	X	X	1	X	X	X	X

M	B	L	SET OF FS
0	0	0	48 / 44.1
0	0	1	48 / 44.056
0	1	0	48 / 32
0	1	1	44.1 / 44.056
1	0	0	44.1 / 32
1	0	1	32 / 44.056

NOTE: FS CONFIGURATION IS SELECTED ON VCXO BOARD.

RX:

MCVASP1

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
1 (81H)	MCVASP1	VARISPEED LOWER BYTE MIN (=-12.5%)		1	0	0	0	0	0	0	0
		MID (=NO DEVIATION)		0	0	0	0	0	0	0	0
		LOWER BYTE MAX (=+12.5%)		1	0	0	0	0	0	0	0

MCVASP2

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
2 (83H)	MCVASP2	VARISPEED UPPER BYTE MIN (=-12.5%)		0	0	0	0	0	1	0	1
		MID (NO DEVIATION)		0	0	0	0	0	1	0	0
		UPPER BYTE MAX (+12.5%)		0	0	0	0	0	0	1	0

INCREMENT: 3LSB STEPS INDICATE 0.1% DEVIATION.

MCCONW1

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
3 (85H)	MCCONW1	TR-REFEX, UNBALACED, NO VARISPEED	0	0	0	0	0	1	0	1
		VIDEO CLOCK, 25 Hz, BALANCED, VARI	0	0	1	0	0	0	1	0
		VIDEO CLOCK, 25 Hz, UNBALANCED, VARI	0	0	1	0	0	0	1	1
		VIDEO CLOCK, 29.97Hz, BALANCED, VARI	0	0	1	0	0	1	1	0
		VIDEO CLOCK, 29.97Hz, UNBAL., VARISP	0	0	1	0	0	1	1	1
		INTERNAL REFERENCE, VARISPEED	0	0	1	0	1	0	0	0
		VIDEO CLOCK, 25Hz, BALANCED, NO VARI	0	0	1	1	0	0	1	0
		VIDEO CLOCK, 25Hz, UNBAL., NO VARI	0	0	1	1	0	0	1	1
		VIDEO CLOCK, 29.97Hz, BAL., NO VARI	0	0	1	1	0	1	1	0
		VIDEO CLOCK, 29.97Hz, UNBAL.,NO VARI	0	0	1	1	0	1	1	1
		AESIN, BALANCED, NO VARISPEED	0	0	1	1	0	1	0	0
		INTERNAL REFERENCE, NO VARISPEED	0	0	1	1	1	0	0	0
		WORD SYNC, BALANCED, VARISPEED	0	1	1	0	0	0	0	0
		WORD SYNC, UNBALANCED, VARISPEED	0	1	1	0	0	0	0	1
		VIDEO CLOCK, 30Hz, BALANCED, VARI	0	1	1	0	0	0	1	0
		VIDEO CLOCK, 30Hz, UNBAL., VARISPEED	0	1	1	0	0	0	1	1
		WORD SYNC, BALANCED, NO VARISPEED	0	1	1	1	0	0	0	0
		WORD SYNC, UNBALANCED, NO VARI	0	1	1	1	0	0	0	1
		VIDEO CLOCK, 30Hz, BALANCED, NO VARI	0	1	1	1	0	0	1	0
		VIDEO CLOCK, 30Hz, UNBAL., NO VARI	0	1	1	1	0	0	1	1
		POWER SUPPLY SYNC ON	1	X	X	X	X	X	X	X

NOTE: IF DIGITAL INPUT IS SELECTED, SYSCON SETS MCCONW1 TO 34H (AESIN, BALANCED, NO VARISPEED).

MCCONW2			MSB							
BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
4 (87H)	MCCONW2	SAMPLING FREQUENCY 48kHz	X	X	X	X	X	X	0	1
		SAMPLING FREQUENCY 44.1kHz	X	X	X	X	X	X	1	0
		SAMPLING FREQUENCY 44.056kHz	X	X	X	X	X	X	1	1
		SAMPLING FREQUENCY 32kHz	X	X	X	X	X	X	0	0
		OUTPUT CLOCK = WORD CLOCK	X	X	X	X	1	X	X	X
	RECORDXF	RECORD TO XFORMATTER (NOM. SPEED)	X	1	X	X	X	X	X	X
	EELOOP2	EE LOOP 2 ON, XFORMATTER-DASY	X	X	0	X	X	X	X	X
	EMPHASIS	EMPHASIS ON TO XFORMATTER	X	X	X	1	X	X	X	X
	VCXOHI	VCXO WITH HIGHER FREQUENCY = ON	1	X	X	X	X	X	X	X

TRANSFORMATTER 1.861.859.00

EELOOP2, RECORD, EMPHASIS, RTSYNC			MSB							
BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
4 (87H)	RECORDXF	RECORD TO XFORMATTER (NOM. SPEED)	X	1	X	X	X	X	X	X
	EELOOP2	EE LOOP 2, FORMATTER-DASY	X	X	0	X	X	X	X	X
	EMPHASIS	EMPHASIS ON (SEE NOTE $)	X	X	X	1	X	X	X	X
	RTSYNC	SYNC FROM RT ON	X	X	X	X	X	1	X	X

DEF OF /RTSYNC/: THE SIGNAL HAS FOUR IMPLIFICATIONS:

A IT PROTECTS THE RT TRACK FROM OVERRITING (SOFTWARE FUNCTION)

B SERVO CONTROL IS DERIVED STRICTLY FROM THE REFERENCE TIME TRACK

C THE DATA SYNCHRONIZER (TBC) IS MAINLY CONTROLLED BY RT, AND NOT BY A MAXIMUM LIKELYHOOD DETECTION OF THE SYNC WORDS OF ALL (8) DATA TRACKS

D SPLICE DETECTION IS NOT CARRIED OUT BY INVESTIGATING THE OCCURENCE OF BLOCK SYNCS WITHIN A CERTAIN TIME WINDOW AND NOT BY DETECTING POSSIBLE DISCONTINUITIES OF BLOCK ADDRESSES.

CONSEQUENCES:

A NEW RECORD: RT IS WRITTEN, DATA SYNC. THE USER IS ADVISED TO RECORD BOTH CHANNELS, EVEN IF ONLY ONE CHANNEL CONTAINS VALID INFORMATION.

B PLAY: WHEN THE TAPE CONTAINS A STEREO RECORDING, DATA SYNC IS PREFERRED (BETTER RELIABILITY). IN THE CASE OF A TWO CHANNEL RECORDING, THE SYNCS FROM BOTH CHANNELS MAY BE DISPLACED BY UP TO 1 BLOCK (EACH +/-1/2 BLOCK REFERENCED TO RT). THEN RTSYNC HAS TO BE SELECTED.

C STEREO RECORD: RTSYNC IS NOT SELECTED. THE TBC IS CONTROLLED BY DATA FOR IMPROVED RELIABILITY AND RT IS ALWAYS OVERWRITTEN.

D SINGLE CHANNEL RECORD: RTSYNC IS SELECTED. THE TBC IS CONTROLLED BY RT AND THE RT TRACK IS PRESERVED. THE NEW TRACK IS ALIGNED TO RT ACCORDING TO FORMAT SPECS. IN THE CASE OF A NON-CONTINUOUS RT (I.E. AFTER A SPLICE) A REACTION TIME OF 157 BLOCKS, CONSISTING OF 152 BLOCKS HEAD DISTANCE, 4 BLOCKS DASY-DELAY AND 1 BLOCK FORMATTERDELAY, HAS TO BE TAKEN INTO ACCOUNT, BEFORE BLOCK NUMBERS AGAIN CORRESPOND TO SECTORS.

E ELECTRONIC EDITORS SHOULD USE RT SYNC MODE BECAUSE PUNCH-IN/-OUT AND APPEND OPERATIONS MAY LEAD TO BLOCK SYNC LOCATIONS OUTSIDE THE EXPECTED WINDOW OF THE D820X. THE D820X DETECTS SPLICE WITHOUT RT SYNC MODE AND PERFORMS CROSSFILTERING ALTHOUGH SAMPLE ACCURATE PUNCHES HAVE BEEN PERFORMED.

SEE ALSO TABLE AT THE END OF CHAPTER 3.4.

RECORDXF HANDLING: /RECORDXF/ TOGETHER WITH /RTSYNC/ DEFINE SERVO CONTROL. /RECORDXF/ DIFFERENTATES BETWEEN CONTROL FROM X-TAL OR FROM TAPE (RT OR DATA). /RTSYNC/ SEPARATES BETWEEN SYNC FROM RT OR FROM DATA.

VARISPEED HANDLING: VARISPEED IS IN ALL MODES ENABLED, EXCEPT WHEN SET TO SYNCHRONIZER INPUT (T-REFEXT) OR WHEN SET TO DIGITAL INPUT. THE DO-BYTE 00, BIT 05, IS SET TO HI, WHEN VARISPEED = ON OR WHEN /TTLOCK/ = HI (UNLOCK) AND THE APPROPRIATE SAMPLING FREQUENCY LED IS SWITCHED OFF.

APPEND MODE HANDLING: (FROM SERIAL PORT ONLY)
/APE/ + PLAY : RT OR DATA SYNC POSSIBLE (USER)
/APE/ + REC : INITIALIZE /RTSYNC/ AND SET SET /RECORDXF/ TO HI
/APD/ : ESTABLISH PREVIOUS RT SYNC MODE.

NOTE $: EMPHASIS HANDLING:

A W/O DI : PLAY:

INDEPENDENT OF PREVIOUS STATUS, /EMPHASIS/ IS SET ACCORDING TO EMPHASIS FLAG ON TAPE (EMPH BIT IN BLOCKS, DETECTED BY TRANSFORMATTER). OVERRIDING BY TOGGLE SWITCH POSSIBLE. IF EMPHASIS IS NOT SET ACCORDING TO FLAG ON TAPE: EMPHASIS KEY (IF ASSIGNED) AND EMPH BULB (ON SECOND. KEYBD.) ON AND ERROR INDIC. FLASHING AS LONG AS ERRONEOUS STATUS IS VALID. ERROR MESSAGE: TAPE EMPH MISMATCH. SYSCON SENDS STATUS TO

- GAINS CONTROL FOR DO, AI AND AO
- T+T FOR XFORMATTER
- PDM CONTROL FOR PDM MODULATOR

AS SET BY EMPHASIS KEY. DO-BYTE (51H) IS EITHER 100 FOR NO EMPH., RECEIVER MANUAL OVERRIDE DISABLED, OR 110 FOR 50/15 USEC. EMPHASIS, RECEIVER MANUAL OVERRIDE DISABLED. PATTERNS 000 AND 111 ARE USED IN TRANSPARENT MODE FROM DI ONLY (STOP OR INPUT, SEE BELOW).

RESET OF OVERRIDE FUNCTION:
AUTOMATIC MODE RESTORED WHEN SETTING IDENTICAL TO FLAG FROM TRANSFORMATTER.

STOP:
EMPHASIS MAY BE CHANGED ANY TIME. SYSCON SENDS STATUS TO
- GAINS CONTROL FOR DO, AI AND AO
- T+T FOR XFORMATTER
- PDM CONTROL FOR PDM MODULATOR AS SET BY EMPHASIS KEY.

RECORD:
IF EMPHASIS STATUS ON:
TRANSFORMATTER WRITES EMPHASIS BIT IN BLOCKS. OVERRIDING BY TOGGLE SWITCH NOT POSSIBLE.
IF EMPHASIS KEY SET TO OFF:
NO EMPHASIS FLAG IS RECORDED ON TAPE. OVERRIDING BY TOGGLE SWITCH NOT POSSIBLE.

B WITH DI : NOT PLAY MODE: BIT PATTERN = 110 INDEPENDENT ON PREVIOUS STATUS, /EMPHASIS/ IS SET ACCORDING TO PATTERN DETECTED BY DI, DAPRO IF, SIGNAL /DIEMPH/. OVERRIDING NOT POSSIBLE!

NOTE: VALID ONLY IF D820X SET TO DIGITAL INPUT. SYSCON SENDS STATUS TO
- GAINS CONTROL FOR DO, AI AND AO
- T+T FOR XFORMATTER
- PDM CONTROL FOR PDM MODULATOR

NOT PLAY MODE: BIT PATTERN = 100 INDEPENDENT ON PREVIOUS STATUS, /EMPHASIS/
IS SWITCHED OFF. OVERRIDING NOT POSSIBLE!

NOTE: VALID ONLY IF D820X SET TO DIGITAL INPUT. SYSCON SENDS STATUS TO
- GAINS CONTROL FOR DO, AI AND AO
- T+T FOR XFORMATTER
- PDM CONTROL FOR PDM MODULATOR

NOT PLAY MODE: BIT PATTERN = 000
DEFAULT IS NO EMPHASIS, WITH OVERRIDE BY TOGGLE KEY ENABLED.
TRANSMITTING AS ABOVE. NOT PLAY MODE: BIT PATTERN = 111
A SIGNAL /DDEMPH/, GAINS CONTROL (51H):
(TRANSPARENT MODE) PATTERN 111 TRANSMITTED.
B SIGNAL /EMPHASIS/: SYSCON ACTS SIMILAR
AS WITH PATTERN 000. DEFAULT = NO EMPHASIS, KEY ENABLED. ERROR MESSAGE AND FORMAT MISMATCH MESSAGE.

PLAY MODE: REACTS TO INFO CONTAINED IN DATA BLOCKS, INDEPENDENT ON OVERRIDE SPECS FROM DI.

IMPORTANT: THIS IS AN EXCEPTION TO THE PRIORITY LEVELS DESCRIBED UNDER "FS HANDLING", PAR. BC. THE HIERARCHICAL STRUCTURE THERE IS: 1. DI, 2. RT, 3. KEYBD. THIS HAS TO BE CHANGED HERE TO 1. DATA FROM TAPE (EMPHASIS FLAG IN BLOCKS), 2. DI (IN ACCORDANCE WITH SPECIAL CONDITIONS PART E "CONSUMER" BELOW), 3. KEYBD (AND REMOTES). OVERRIDE WITH TOGGLE KEY POSSIBLE. ERROR LED FLASHING AND MESSAGE "TAPE EMPH MISMATCH" AS AS LONG AS FLAG FROM TAPE DOES NOT CORRESPOND TO KEY SETTING.

RECORD:
SYSCON ACTS ACCORDING TO DI-FLAG, OR TO A SELECTED CONFIGURATION AS DESCRIBED ABOVE. IT MAY THEN RECEIVE

"EMPHASIS ON" STATUS FROM T+T (XFORMATTER) AGAIN, WHICH IT NEGLECTS. OVERRIDING BY TOGGLE SWITCH NOT POSSIBLE. FOR PATTERN 111 ONLY (CCITT J17): ERROR MESSAGE AND FORMAT MISMATCH!

SPECIAL CONDITIONS:

C SINGLE TRACK RECORDING: EMPHASIS AFFECTS BOTH CHANNELS SIMULANEOUSLY (STEREO-MODE), BECAUSE THE AES/EBU FORMAT DOES NOT ALLOW FOR INDIVIDUAL TRANSMISSION, AND TO KEEP HARDWARE, SOFTWARE AND OPERATION AS SIMPLE AS POSSIBLE.

WHEN A SINGLE CHANNEL RECORDING HAS BEEN MADE, THE TRANSFORMATTER READS THE EMPHASIS FLAG CORRECTLY IN READ AFTER WRITE PROVIDED, THAT THE HEAD DISTANCE HAS BEEN ADJUSTED CORRECTLY. WHEN AN ATTEMPT IS MADE TO WRITE THE REMAINING CHANNEL WITH A DIFFERENT EMPHASIS SETTING TO THE ONE WHICH IS FOUND ON THE READ-BACK CHANNEL, THE SYSCON SETS THE EMPHASIS ACCORDING TO THE PREVIOUSLY RECORDED CHANNEL AND DISPLAYS AN ERROR MESSAGE IN THE LCD: "OVERRIDE DISABLED" IF ANY ATTEMPT IS MADE TO OVERRIDE IT MANUALLY, OR IT DISPLAYS AN ERROR MESSAGE "DI EMPH MISMATCH" AS LONG AS THE DI EMPHASIS MODE DOES NOT MATCH.

D CCITT J17 CONSTANTS: PATTERN 111 (CCITT J17): SINCE THE RECORDER IS NOT EQUIPPED WITH THE REQUIRED TIME CONSTANTS, IT WILL OUTPUT AN ERROR MESSAGE, WHEN FORCED TO RECORD. IN STOP OR INPUT MODE THE DI-BYTE WILL BE EQUAL TO THE DO-BYTE.

E CONSUMER MODE: STOP, INPUT OR RECORD MODE:
IF BIT 1 IN BYTE 00 OF THE CONTROL WORD IS SET LOGICAL LOW, THEN CONSUMER MODE IS SPE- CIFIED. IN THIS MODE ONLY THE EMPHASIS FLAG IS PROCESSED. OVERRIDE DISABLE IS SPECIFIED BECAUSE THERE IS NO MANUAL OVERRIDE MODE AND TO ELIMINATE OPERATIONAL ERRORS. INPUTS FROM THE KEYBOARD OR FROM EMPHASIS FLAG IN DATA BLOCKS ARE CONSIDERED INVALID. ERROR MESSAGE "ILLEGAL DI FORMAT" (BECAUSE THE FORMAT IS ONLY PARTIALLY PROCESSED) AND ERROR LED.

PLAY:
EXCEPTION AS WITH PROFESSIONAL DI FORMAT:
EMPHASIS FLAG IN DATA BLOCKS IS PRIORITY ONE. OVERRIDE WITH TOGGLE KEY POSSIBLE. ERROR LED FLASHING AND MESSAGE "TAPE EMPH MISMATCH" AS AS LONG AS FLAG FROM TAPE DOES NOT CORRESPOND TO KEY SETTING. NOTE: OTHER ERROR MESSAGES MAY OVERRIDE "TAPE EMPH MISMATCH". EXAMPLE: EXTERNAL FS=44.1 kHz; TAPE=48 kHz; USER SELECTS 48 kHz TO PLAY TAPE. ERROR MESSAGE "CHECK EXTERNAL SYNC" (WITH HIGHER PRIORITY) APPEARS, BECAUSE THE LOCAL X-TAL CONFIGURATION IS NOT SUITED TO REMOTE SYNC SOURCE.

NOTE ON FS HANDLING SEE PAR. 3.4 BELOW.

3.3.4
RT/TC CODEC 1.861.861/761

COBUS: 2 INDIVIDUAL RECEIVERS, TRANSMITTERS

THIS BOARD SUPPLIES - ADAPTIVE RUN PROCESSOR 1.861.860/760

OVERVIEW OF ALL COMMANDS LISTED IN THIS SECTION:

POS	BITS	COMMAND	DESCRIPTION
1	48	RTADDR	VALUE OF RT (BIN) TO SYSCON
2	1	TXRTCRC	RT ADDRESS INVALID (CRC ERROR)
3	32	RTATOCO	RT ADDR TO RT/TC CODEC
4	1	FLAG	INDICATES TWIN RECORDING (FROM SYSCON)
5	3	SAMPFREQ	48, 44.1, 32 kHz, OR UNSPECIFIED (FROM SYSCON)
6	3	FORMAT	DASH FORMAT VERSION (FROM SYSCON)
7	3	AUXTRKFO	AUXILIARY TRACK FORMAT (FROM SYSCON)
8	6	RESERVED	UNSPECIFIED BITS (FROM SYSCON)
9	64	TCADDR	VALUE OF TIME CODE (BCD), READ 8 TIMES
10	1	TCREADY	SYSCON READY TO RECEIVE TC ADDRESS
11	1	PRESENT	RT/TC CODEC PRESENT
12	1	TXTCMOD	SELECTS TC RECORDING MODE (UNMODULATED/MODULATED)
13	1	ARPOFF	ADAPTIVE OR TRANSPARENT MODE FOR RUN PROCESSOR
14	1	TCDELAY	TC OUTPUT DELAY
15	1	FREEZED	FREEZE CONTENT OF DRAM IN ADAPTIVE RUN PROCESSOR
16	1	FRAMERA	TC FRAME RATE TO TC CODEC
17	1	TCREAD	TC STATUS = READ FROM TAPE
18	1	EETC	EE-LOOP TC (AFTER WRITE-DELAY TO CLK RECOVERY)
19	1	TCUP	INDICATES TAPE DIRECTION
20	1	TCMOD	SELECTS DEMODULATION MODE (UNMODULATED/MODULATED)
21	1	FSTC	SPECIFIES FS FOR TC OUTPUT DELAY TIME

A) RT CODEC

TX ONLY:

RTADDR0 . . . 5, TXRTCRC

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
1 (9EH)	TXRTCRC	CRC ERROR, ALL FOLLOW. BYTES INVALID		1	X	X	X	X	X	X	X
2 (90H)	RTADDR0	VALUE OF REFERENCE TIME (BIN)RTCONW1		M	6	5	4	3	2	1	0
3 (92H)	RTADDR1	VALUE OF REFERENCE TIME (BIN)RTCONW2		7	6	5	4	3	2	1	L
4 (94H)	RTADDR2	VALUE OF REFERENCE TIME (BIN)ADDR1		M	6	5	4	3	2	1	0
5 (96H)	RTADDR3	VALUE OF REFERENCE TIME (BIN)ADDR2		7	6	5	4	3	2	1	0
6 (98H)	RTADDR4	VALUE OF REFERENCE TIME (BIN)ADDR3		7	6	5	4	3	2	1	0
7 (9AH)	RTADDR5	VALUE OF REFERENCE TIME (BIN)ADDR4		7	6	5	L	X	X	X	X

NOTE: SYSCON RECEIVES ALL BYTES SEQUENTIALLY AS DESCRIBED ABOVE. IT MAY STOP THE REQUEST CYCLE AFTER EVERY BYTE. TIME LIMIT TO READ ALL 7 BYTES: <4 msec.

FORMAT OF CONTROL WORD (CNTL W): SEE BYTES 1,2 BELOW

RX:

SAMPFREQ, FORMAT, FLAG, AUX TRK FORMAT, RESERVED, RTATOCO1...3

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
1 (91H)	FLAG	SET TO 1 FOR TWIN FORMAT	1							
	SAMPFREQ	SAMPLING FREQUENCY TO RT/TC CODEC		M	B	L				
		000 UNSPECIFIED								
		001 48kHz NOMINAL								
		010 44.1kHz NOMINAL								
		011 32kHz NOMINAL								
		100 44.056kHz								
		101...111 RESERVED								
1 (91H)	FORMAT	DASH FORMAT VERSION					0	0	1	
		001 INDICATES DASH M, NORMAL DENSITY								
1 (91H)	AUXTRKFO	AUX TRACK FORMAT								0
2 (93H)	AUXTRKFO	AUX TRACK FORMAT	0	1						
		XX0 INDICATES ANALOG CUE TRACKS								
		XX1 INDICATES PDM CUE TRACKS								
		X0X INDICATES AUX3 NO AUX DATA								
		X1X INDICATES AUX3 AUX DATA								
		0XX INDICATES TC UNMODULATED								
		1XX INDICATES TC MODULATED								
		(ALL UNLESS OTHERWISE SPECIFIED)								
2 (93H)	RESERVED	RESERVED BITS			0	0	0	0	0	0
		NOT YET SPECIFIED, SET TO 000000								
3 (95H)	RTATOCO1	RT ADDR 1 WITH OFFSET FROM SYSCON	M	6	5	4	3	2	1	0
4 (97H)	RTATOCO2	RT ADDR 2 WITH OFFSET FROM SYSCON	7	6	5	4	3	2	1	0
5 (99H)	RTATOCO3	RT ADDR 3 WITH OFFSET FROM SYSCON	7	6	5	4	3	2	1	0
6 (9BH)	RTATOCO4	RT ADDR 4 WITH OFFSET FROM SYSCON	3	2	1	L	X	X	X	X

NOTE: PRESET ALWAYS COMPLETE (DO NOT SKIP BYTES), NO TIME LIMIT.
NOTE: BYTES 1,2 NOT TO BE CHANGED IN RECORD MODE.

PROCEDURE TO SET RT (TRANSMITTED TO HARDWARE):

1. CALCULATE NEW RT ADDRESS (WITH OFFSET).
2. SET RT BYTES 2...6:

```
BYTE 2                          BYTE 3                          BYTE 4                          BYTE 5
MSB                                                                                                      LSB
|27|26|25|24|23|22|21|20|  |19|18|17|16|15|14|13|12|  |11|10|09|08|07|06|05|04|  |03|02|01|00|XX|XX|XX|YY|
|<-------------------------------------- 28 BIT REFERENCE ADDRESS ------------------------------------->|
                                                                                             BYTE 6
                                                                                         |  |33|22|11|00|XX|XX|XX|11|
```

SET YY TO 00.

SEQUENCE FOR SETTING: BYTE 2 - -→ BYTE 6.

3. SET CONTROL WORD (16 BITS):

```
BYTE 0                          BYTE 1
MSB                                                          LSB
|TW|FS|FS|FS|VE|VE|VE|FO|  |FO|FO|R1|R2|R3|R4|R5|R6|
|<------------------16 BIT CONTROL WORD------------------>|
```

TW: TWIN FLAG (SET TO 1)
FS: SAMPLING FREQUENCY (SEE RX PARAGRAPH ABOVE)
VE: DASH FORMAT VERSION (SET TO 001 FOR DASH M, NORMAL DENSITY)
FO: AUX TRACK FORMAT (SEE RX PARAGRAPH ABOVE)
Rn: RESERVED BITS

THERE IS NO TIME LIMIT FOR SETTING RT.

PROCEDURE TO READ RT (TRANSMITTED FROM HARDWARE):

RT TRANSMITTER ADDRESS OFFSET BYTE:

```
                                             BYTE 00 (9EH)
                                            |CRC|XXX|XXX|XXX|XXX|XXX|XXX|XXX|

BYTE 0 (90H)                                 BYTE 1 (92H)
|C15|C14|C13|C12|C11|C10|C09|C08|  |C07|C06|C05|C04|C03|C02|C01|C00|
|<-----------------------16 BIT CONTROL WORD------------------------------->|

BYTE 2 (94H)                                 BYTE 3 (96H)
|R15|R14|R13|R12|R11|R10|R09|R08|  |R07|R06|R05|R04|R03|R02|R01|R00|
|<-----------------------28 BIT REFERENCE ADDRESS-----------------------------

BYTE 4 (98H)                                 BYTE 5 (9AH)
|R15|R14|R13|R12|R11|R10|R09|R08|  |R07|R06|R05|R04|XXX|XXX|XXX|XXX|
-------------------------28 BIT REFERENCE ADDRESS-------------------------->|
```

CRC: CRC ERROR FLAG. IF LOGICAL LO: NO ERROR.
ACCESS SEQUENCE: READ BYTE 00 FIRST AND BYTE 5 LAST.
BYTE 0 SETS A WRITE PROTECTION FLAG TO PREVENT FROM OVERWRITING DURING
READ ACCESS; BYTE 5 RELEASES THE WRITE PROTECTION FLAG.
TIME LIMIT FOR READING RT: <4msec.

AUXTRKFO HANDLING: PLAY:
SIGNALS /IAN/PDM/ AND /TCMOD/ ARE AUTOMATICALLY SET ACCORDING TO AUXTRKFO (SEE ABOVE).

RECORD: STUDER RECORDERS ALWAYS WRITE YX1 IN AUXTRKFO (CUE MODULATED). BIT Y IS SET ACCORDING TO /TXTCMOD/.

THE FLAG FOR AUX TRACK USAGE IS SET ACCORDING TO THE AUX4MIX SETTING. AUX4MIX = ON INDICATES AUX3 TRACK USED FOR AUXILIARY DATA (X1X). IN READ MODE, IN THIS CASE THE AUX 3 OUTPUT IS SET TO TTL LEVEL, ELSE TO NOMINAL LINE OUTPUT LEVEL. NOTE THAT IT IS NECESSARY TO START A RECORDING WITH THE EXACT AUX TRACK FORMAT SETTING, ALTHOUGH IT IS POSSIBLE TO OVERWRITE THE AUXTRKFO. A CONFLICTING SITUATION MAY EXIST WHEN A TRACK SEQUENTIAL RECORDING HAS BEEN MADE WITH AN ATTEMPT FOR DIFFERENT AUX4MIX SETTINGS. IN THIS CASE THE RECORDER WILL INHIBIT A DIFFERENT SETTING FROM THE ONE USED IN THE FIRST INSTANCE AND OUTPUT AN ERROR MESSAGE: INVALID AUX TRK SETTING.

OVERRIDING RT AUX TRACK FLAGS: ALL FLAGS (FS, TC, CUE, AUX4MIX) AS WRITTEN ON TAPE MAY BE DELIBERATELY OVERWRITTEN WITH SEVERAL KEYS. FS HANDLING IS SEPARATELY DESCRIBED. FOR ALL OTHER CASES (EXCEPT EMPHASIS): AN ERROR MESSAGE "AUTO MODE DISABLED" IS DISPLAYED IN THE LCD AND THE "ERROR" LED IS NOT FLASHING.

B) TC CODEC

TX ONLY:

TCREADY BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
1 (B0H)	TCREADY	INITIALIZES TC TX FROM TC CODEC		X	X	X	X	X	X	X	X

NOTE: READ BYTE (B0H) IN ORDER TO INDICATE READ-OUT OF TC WORDS.

TCADDR,	TC BYTES	IN SEQUENTIAL ORDER	MSB							
BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
2 (B2H)	BYTE 00	FRAME UNITS					M	B	B	L
		USER BITS	1	2	3	4				
	BYTE 01	FRAME TENS							M	L
		DROP FRAME FLAG (NOTE $)						B		
		COLOR FRAME FLAG (NOTE $)					B			
		USER BITS	1	2	3	4				
	BYTE 02	SECOND UNITS					M	B	B	L
		USER BITS	1	2	3	4				
	BYTE 03	SECOND TENS						M	B	L
		UNASSIGNED					B			
		USER BITS	1	2	3	4				
	BYTE 04	MINUTES UNITS					M	B	B	L
		USER BITS	1	2	3	4				
	BYTE 05	MINUTES TENS						M	B	L
		UNASSIGNED					B			
		USER BITS	1	2	3	4				
	BYTE 06	HOURS UNITS					M	B	B	L
		USER BITS	1	2	3	4				
	BYTE 07	HOURS TENS							M	L
		UNASSIGNED					B	B		
		USER BITS	1	2	3	4				

PRESENT,	TCREAD		MSB							
BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
3 (B4H)	PRESENT	TC CODEC PRESENT	X	X	X	X	X	X	X	0
	TCREAD	TC STATUS INDIC.: TC READ OFF TAPE	X	X	X	X	X	X	1	X
	TCUP	FORWARD TAPE DIRECTION	X	X	X	X	X	1	X	X

TC READ SEQUENCING:

1 SEND /TCREADY/.
2 CHECK /TCREAD/, WHEN HI: TC = VALID, OTHERWISE BLANK DISPLAY.
3 READ /TCUP/, INDICATES SEQUENCE OF FOLLOWING BYTES. BYTES ARRIVE IN REVERSE ORDER WHEN /TCUP/ = LO. THE BIT SEQUENCE WITHIN A BYTE IS ALWAYS PRESERVED.
4 READ (B2H) 8 TIMES.

IGNORE /TCREAD/ IF TAPESPEED >1.0 m/sec.

FORMATTING TC INFORMATION:

POSITION	0	9	8	7	6	5	4	3	2	1	
MODE 1:	A	H2	H1	M2	M1	S2	S1	F3	F2	F1	CODE
MODE 2:	A	U8	U7	U6	U5	U4	U3	U2	U1	U	USER BITS (HEX CHARACTERS)
MODE 3:	A	-	-	0	9	8	7	6	5	F	UNASSIGNED BITS (BIN. DIGITS)
ADDRESSES:	49	47	45	43	41	39	37	35	33	31	

F = FRAMES
A = (t) TC

U = USER BITS
F = FLAGS

U8 = BINARY GROUP 8
U7 = BINARY GROUP 7
U6 = BINARY GROUP 6
U5 = BINARY GROUP 5

U4 = BINARY GROUP 4
U3 = BINARY GROUP 3
U2 = BINARY GROUP 2
U1 = BINARY GROUP 1

0 = BIT 59
9 = BIT 58
8 = BIT 43
7 = BIT 27
6 = BIT 11 (COLOR FRAME FLAG)
5 = BIT 10 (DROP FRAME FLAG)

NOTE: ASCII-CHARACTERS ARE NOT DISPLAYED.

NOTE: TC VALIDITY CONFIRMATION:

1. CODE PRESENT ? IT IS ASSUMED THAT A VALID CODE IS RECEIVED WHEN A CONSECUTIVE TRANSITION FOLLOWS.
2. OUT-OF-RANGE DETECTION.
3. IS TRANSITION WITHIN EXPECTED WINDOW (0...75%) ?
4. SYNC WORD CORRECT ? 12 LOGICAL HI BITS ARE COUNTED.
5. ADDRESS PLAUSIBILITY CHECK.
6. IGNORE /TCREAD/ IF TAPESPEED >1.0 m/sec.

CRITERIA 1...4 ARE CHECKED BY HARDWARE. POS. 5 AND 6 ARE CHECKED BY THE SYSTEM CONTROLLER FOR DISPLAY PURPOSES ONLY.

THE LAST VALID FRAME IS FREEZED FOR A SHORT TIME IN ORDER TO REDUCE FLICKERING (SYSCON).

4 FRAMES ARE DISCARDED WHEN AN ERROR OCCURS. /TCREAD/ IS MORE STABLE UNDER THIS CONDITION (HARDWARE).

RX:

FRAMERA, TXTCMOD, ARPOFF, FREEZED, TCDELAY, TCMOD, FSTC, EETC

BYTE NO	SIG NAME	DESCRIPTION BITS	MSB 7	6	5	4	3	2	1	0
1 (B1H)	FREEZED	FREEZE CONTENT OF DRAM, ELSE ADAPT.	X	X	X	X	X	X	X	1
	ARPOFF	SELECT FIXED EQ TABLE, ELSE ADAPT.	X	X	X	X	X	X	1	X
	TCDELAY	TC OUTPUT DELAY ON, ELSE OFF	X	X	X	X	X	1	X	X
	TXTCMOD	WRITE MODULATED TC	X	X	1	X	X	X	X	X
	FRAMERA	TC FRAME RATE = 25, ELSE 29 OR 30	0	X	X	X	X	X	X	X
	EETC	EE LOOP TC ON	X	1	X	X	X	X	X	X
	TCMOD	TC MODULATED ON TAPE	X	X	X	1	X	X	X	X
	FSTC	FS=48kHz, ELSE=44.1 OR 44.056kHz	X	X	X	X	1	X	X	X

NOTE: TC READOUT FOR TAPE SPEED <1m/sec. POSSIBLE. TAPE NEEDS TO BE IN CONTACT WITH READ HEAD. MOVE LIFTER IN AFTER SEQUENCE WIND, THEN STOP, PLAY, REC, LOC, TAPE DUMP, EDIT, IF TAPE SPEED 1m/sec.

NOTE: /TXTCMOD/ TO BE SET TOGETHER WITH APPROPRIATE BIT IN RT CONTROL WORD.

NOTE: /TCDELAY/ IS ENABLED IN PLAY MODE ONLY (AUTO MODE FROM KEYBOARD). OVERRIDE BY REMOTES AND/OR KEYBOARD POSSIBLE WHEN IN AUTO MODE.

RUN PROCESSOR 1.861.860/760

TAPETYPE, ARPOFF, FREEZED, MVARI

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
1 (B1H)	FREEZED	FREEZE CONTENT OF DRAM, ELSE ADAPT.	X	X	X	X	X	X	X	1
	ARPOFF	SELECT FIXED EQ TABLE, ELSE ADAPT.	X	X	X	X	X	X	1	X
	MVARI	TAPE SPEED LESS THAN 14.47 IPS.NOTE*	X	X	X	X	X	1	X	X
	TAPETYPE	TAPE TYPE A, ELSE B	X	X	X	X	0	X	X	X

NOTE *: /MVARI/ NOT USED ANYMORE.

NOTE: ADAPTIVE/TRANSPARENT (TABLE)/FREEZED MODE: THE TRANSPARENT MODE (/ARPOFF/) OR "REFERENCE EQ TABLE" IN THE ALIGNMENT MENU BYPASSES THE ADAPTIVE PROCESS, THUS PERMITTING TO WORK WITH ONE OF TWO POSSIBLE ROM TABLES (SELECTED WITH /TAPETYPE/). ALL PREVIOUSLY STORED OFFSET VALUES FROM THIS TABLE IN RAM ARE SAFED AND IMMEDIATELY AVAILABLE WHEN ACTIVATED IN ADAPTIVE MODE (/FREEZED/ DISABLED).

THE FROZEN MODE STOPS ADAPTATION. PREVIOUS VALUES IN RAM ARE SAFED AND NOT CHANGED ANYMORE. SEE CRITERIA BELOW FOR USE OF

THE FROZEN MODE. THE MODE IS ACTIVATED ONLY TO PROTECT THE ADAPTIVE RUN PROCESSOR FROM ANY POSSIBLE ERRONEOUS ADAPTATION TO NON-VALID DATA. LOCAL ACTIVATION (FROM KEYBOARD) POSSIBLE.

MENU STRUCTURE:

IN "ALIGNMENT AUDIO":

RECORD CURRENT B +/-...	DISPLAY RECORD CURRENT VALUE
REFERENCE EQ TABLE (selected)	SELECT TABLE, SEND COMMAND /ARPOFF/, DISPLAY "SELECTED" WHEN ACTIVATED WITH STORE.
STOP ADAPTATION (selected)	FREEZE CONTENT OF DRAM, SEND COMMAND /FREEZED/, DISPLAY "SELECTED" WHEN ACTIVATED WITH STORE.
PAR. BACKUP RS232 || VERIFY SAFE LOAD	

NOTE ON FROZEN TABLE MODE:
THE CRITERIA TO STOP ADAPTATION ARE:

1 /REPMUTE/ ACTIVE (FROM DAPRO) FROM MORE OR EQUAL TO ONE CHANNEL.
2 NOT IN PLAY (OR RECORD) MODE.

NOTE THAT THE ADAPTIVE RUN PROCESSOR IS FURTHER PROTECTED BY CIRCUITRY ON THE DETECTOR II BOARD WHICH DISCONNECTS POWER TO THE COMPARATORS WHEN THE SAME CONDITION AS 2 ABOVE OCCURS. NO INVALID TRANSITIONS SHOULD REACH THE RUN PROCESSOR, I.E. DUE TO RFI OR EMI TO THE HEADS.

TIME CODE DELAYS VS. DIGITALAUDIO DELAYS

CELLS | BLOCKS DELAY {msec.}	REPRO DELAY OFF		25 FR.		29, 30 Fr.	
48 kHz	---	166.5	477	238.5	572	238.5
	83		120		120	
44.1 kHz 44.056 kHz	---	166.5	521 (1)	238.5	624 (2)	238.5
	91		131 (3)		131 (3)	
	←-INPUT DELAY-→		←REPRO DELAY→			

THE NUMBERS ABOVE ARE EXACT VALUES. ACTUAL (IMPLEMENTED) VALUES WITH BOARD 1.861.761.21: (VERSIONS -22 UP HAVE EXACT VALUES)
(1) ERROR = 44 CELLS = 1/4 FRAME
(2) ERROR = 52 CELLS = 1/3 FRAME
(3) ERROR = 11 msec. (120 msec. IMPLEMENTED).

NOTE: FS HANDLING:
THE MASTER HAS NO A PRIORI INFORMATION ABOUT THE SAMPLING FREQUENCY. IN A MUTUAL AGREEMENT IT IS DECIDED, THAT ALWAYS THE TOP LED ON THE SECONDARY KEYBOARD INDICATES THE HIGHER FS. THEREFORE THE MASTER TRANSMITS ONLY "FS HI" OR "FS LO". IN "FS LO" THE KEY IS ILLUMINATED. DURING POWER UP, THE SYSCON TESTES

T+T (/FSSET/, 80H) ON CRYSTAL-CONFIGURATION (REPLACING VCXO-BOARDS IN OPERATION IS NOT PERMITTED) AND STORES THE CRYSTAL (HARDWARE) SET IN REGISTERS, DESIGNATED "XTALFS".

OUTPUTS FROM SYSCON:
2 TEMPORARY REGISTERS "ACTFS" AND "ACTTS" STORE THE ACTUAL FS AND ACCOMPAGNING TAPE SPEED (TS) RESPECTIVELY. UPDATING THESE REGISTERS IS SUBJECT TO MEASURES DESCRIBED BELOW. THE REGISTER "ACTTS" DIRECTLY CONTROLS THE TAPE DECK MPU'S COMMAND SET "SPS" VIA MASTER MPU (TS). THE REGISTER "ACTFS" CONTROLS

- THE MASTER MPU (ACTFS) FOR DISPLAY AND CONVERSION
- T+T (/MCCONW2/, 87H). DIVIDER RATIOS, ETC.
- RT CODEC (/SAMPFREQ/,91H). ADDRESS CONTENT
- TC CODEC (/SYSCFS/,B1H), TO RUN PROCESSOR
- DAPRO IF VIA GAINS CONTROL (/DDEMPH/, 51H), DO
- TIME DISPLAY CONVERSION ROUTINES. ALL ARE DESIGNATED RECEIVERS OF THE SYSCON.

INPUTS TO SYSCON:
A) W/O DI: AA) FROM TERMINAL:
COMMANDS FROM THE TERMINAL UPDATE "ACTFS" AND "ACTTS" DIRECTLY. "XTALFS" IS NOT TESTED. A CORRECT INPUT T-REFEXT IS ASSUMED. OVERRIDING BY QUIT-COMMAND ONLY. THEN, THE CONTENT OF REGISTER "FSIN" IS SELECTED (PREVIOUS VALUE). IN RECORD, COMMAND ARE NOT ACCEPTED.
AB) PLAY:
(COMMANDS FROM KEYBOARD OR RT CODEC) INDEPENDENT ON PREVIOUS STATUS, FS IS SET ACCORDING TO /RTADDR0/ (90H) FROM RT CODEC. THE INFO IS CHECKED AGAINST "XTALFS". IF THERE IS A MISMATCH, AN ERROR MSG TYPE B IS DISPLAYED. IF THERE IS NO VALID INFO FROM RT CODEC, SYSCON SELECTS /TSLO/. IF THE INFO IS STILL INVALID, AN ERROR MSG TYPE B IS DISPLAYED: FORMAT MISMATCH; ASSUMING THAT NO RT HAS BEEN WRITTEN. TIME-OUT FOR EVERY NEW ACTION = 10 SECTORS (20msec.). DO-BYTE 00, /DDEMPH/: BITS 6,7 = 00 WHEN FS = 44.056, OTHERWISE AS SPECIFIED BY AES/EBU FORMAT. OVERRIDE DISABLED. IF THE FS IS UNSPECIFIED IN THE RT ADDRESS (000), OVERRIDE BY TOGGLE SWITCH IS ENABLED. DISPLAY: "FS UNSPECIFIED", MSG TYPE A.
AC) STOP:
FS MAY BE CHANGED ANY TIME FROM KEYBOARD.
AD) RECORD (RT):
FS IS RECORDED ACCORDING TO PREVIOUS STATUS.

B) WITH DI: BA) STOP OR INPUT MODE:
BIT PATTERNS 01,10,11: RECORDER IS SET ACCORDINGLY AFTER CHECK WITH "XTALFS". OVERRIDING BY TOGGLE SWITCH NOT POSSIBLE. IF CHECK FAILS: ERROR MSG TYPE B. PATTERN 00: THE PREVIOUS STATE IS KEPT IN "ACTFS". OVERRIDING ENABLED.

NOTE: VALID ONLY, IF D820X IS SET TO DIGITAL INPUT.

BB) RECORD (RT):
AS ABOVE. THE SYSCOM COMPARES /DIEMPH/ (58H) WITH /RTADDR0/ (90H). IF BOTH ARE NOT EQUAL (I.E. IN RT SYNC MODE), AN ERROR MSG TYPE B IS DISPLAYED AND THE TAPE TRANSPORT IS BROUGHT IN STOP MODE.
BC) PLAY:
INPUTS FROM KEYBD, RT, DI. PRIORITY LEVELS: 1=DI, 2=RT, 3=KEYBD.

NOTE: ERRONEOUS PLAYBACK POSSIBLE IF DI NOT SET ACCORDING TO RT (SPEED AND FS DEVIATION). ERROR MSG IN LCD ONLY.

	PLAY (KEY "RT SYNC" ENABLED)			RECORD (KEY "RT SYNC" DISABLED)
X	SERVO CONTROLLED BY DATA	Y		SERVO CONTROLLED BY RT ! (*)
X	RT MODE: READ RT	Y		RT MODE: READ ONLY ! (*)
X	LED "RT SYNC": OFF	Y		LED "RT SYNC": FLASHING (*)
Z	SERVO CONTROLLED BY RT	T	U	SERVO CONTROLLED BY CRYSTAL
		T	U	RT MODE: WRITE RT
		T	U	LED "RT SYNC": OFF
Z	RT MODE: READ RT			
		T	V	SERVO CONTROLLED BY RT (**)
		T	V	RT MODE: READ ONLY
Z	LED "RT SYNC": ON	T	V	LED "RT SYNC": FLASHING

X = KEY "RT SYNC" OFF
Z = KEY "RT SYNC" ON
Y = CH 1 OR CH 2 SAFE
T = CH 1 AND CH 2 : READY
U = KEY "RT SYNC" OFF
V = KEY "RT SYNC" ON
(*) = INDEPENDENT OF KEY "RT SYNC"
(**) = IT THE TAPE CONTAINS NO RT, THE TAPE DECK ESTABLISHES "STOP" MODE AND THE MESSAGE "NO REFERENCE TRACK" IS DISPLAYED.

VIDEO-/FILM-CLOCKS VS. SAMPLING FREQUENCIES

ORIGIN	LINES	FRAMES	RELATIONSHIP TO SAMPL. FREQUENCIES			
		sec.	32	44.1/1.001	44.1	48
NTSC monochrome	525	30,60	(15/16)	---	1470	1600
NTSC color	525	30/1.001	---	1470	---	(8008/5)
PAL monochr./col.	625	25	1280	---	1764	1920
FILM	---	48	---	---	---	1000

IN ALL CASES WHERE NO SIMPLE INTEGER RATIO EXISTS (DENOTED BY --- OR NUMBERS IN BRACKETS), AN ERROR MESSAGE IS DISPLAYED IN THE LCD DISPLAY, READING "NO INTEGER RATIO", AND THE RED "ERROR" LED IS FLASHING.

3.3.5
ANALOG INPUT 1.861.752/753

COBUS: RX (2BRECEX)

ANAGAIN BYTE NO	SIG NAME	DESCRIPTION BITS	MSB 7	6	5	4	3	2	1	0
1 (21H)	ANAGAIN1	LINE INPUT LEVEL	M	B	B	B	B	B	B	L
2 (23H)	ANAGAIN2	EXAMPLE: 0dBm (=MIN)	0	0	0	1	1	0	1	0
		EXAMPLE: 6dBm	0	0	1	1	0	0	1	1
		MAX (=20dBm)	1	1	1	1	1	1	1	1

ADDRESS 21H VALID FOR CH1, 23H FOR CH2.

NOTE: DEFAULT VALUE = 6dBm.
NOTE: /MAINMUTE/ AND /EMPHASIS/ FED OVER DEDICATED LINES FROM GAINS CONTROL.

3.3.6
ANALOG OUTPUT 1.861.751.00

COBUS: RX (2BRECEX)

ANAGAIN BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
2 (2DH)	ANAGAIN4	LINE OUTPUT LEVEL		M	B	B	B	B	B	B	L
1 (2FH)	ANAGAIN3	EXAMPLE: 0dBm (=MIN)		0	0	0	1	1	0	1	0
		EXAMPLE: 6dBm		0	0	1	1	0	0	1	1
		MAX (=20dBm)		1	1	1	1	1	1	1	1

ADDRESS 2FH VALID FOR CH1, 2DH FOR CH2.

NOTE: DEFAULT VALUE = 6dBm.

NOTE: /MAINMUTE/ AND /EMPHASIS/ FED OVER DEDICATED LINES FROM GAINS CONTROL.

3.4
ELECTRONICS RACK 1.861.310.00

3.4.1
PDM CONTROL 1.861.813.00

COBUS: RX, TX (8BRECEX, 8BTRMEX)

THIS BOARD SUPPLIES	- PDM MODULATOR	1.861.811.00
	- PDM DEMODULATOR	1.861.812.00
	- ANALOG ROUTING	1.861.814.00
	- CUE/PQ DELAY	1.861.816.00
	- QUALITY DISPLAY	1.861.731.00
	- MP AMPLIFIER	1.861.746.00

OVERVIEW OF ALL COMMANDS LISTED IN THIS SECTION:

POS	BITS	COMMAND	DESCRIPTION
1	1	IAN/PDM	PDM OR ANALOG SIGNAL ON TAPE
2	1	MON/STE	CUE TRACKS STEREO OR MONO (MIX)
3	1	CHASELB	CHANNEL SELECT BIT B
4	1	CHASELA	CHANNEL SELECT BIT A
5	1	MONSELB	MONITOR SELECT BIT B
6	1	MONSELA	MONITOR SELECT BIT A
7	1	EEPDM	EE LOOP PDM
8	1	MPSMUTE	MONITOR PANEL SPEAKER MUTING
9	1	PRESENT	PDM CONTROL PRESENT
10	8	CUE1GAIN	LINE LEVEL CUE 1, 0...20dBV.7
11	8	CUE2GAIN	LINE LEVEL CUE 2, 0...20dBV.7
12	8	QUALDISL	SIGNAL QUALITY DISPLAY DATA (PROCESSED), LEFT
13	8	QUALDISR	SIGNAL QUALITY DISPLAY DATA (PROCESSED), RIGHT
14	1	EMPHASIS	EMPHASIS TO PDM MODULATOR
15	1	HISPDPDM	AUX 3, 4: SELECT RESONATOR @ TS=1m/sec.
16	1	MON/STE1	AS MON/STE, BUT INVERTED IN AUX4MIX & INPUT

TX ONLY:

PRESENT BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
1 (A0H)	PRESENT	PDM CONTROL PRESENT		X	X	X	X	X	X	X	0

RX:

MPSMUTE BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
2 (A3H)	MPSMUTE	MONITOR SPEAKER MUTED, SEE $$$		X	X	X	X	X	X	0	X

NOTE: THIS BIT IS SENT TO MP AMPLIFIER 1.861.746.00

NOTE $$$: MONITOR SPEAKER MUTING MODES:
1 POWER-UP
2 MAINMUTE
3 SPEAKER OFF/ON

DEFINITIONS OF AUTOMUTE, AUTOEDIT, AUTOINPUT A, B:

1 **AUTOMUTE:** (CUE OUTPUTS ONLY): CUE1GAIN AND CUE2GAIN SET TO 00H IN WIND MODE ONLY.

2 **AUTOEDIT:** (MONITOR SPEAKERS ONLY)

2.1 **ON:** IN PLAY, REC: MONSEL SET TO DIGITAL (PCM PLAYBACK). IN STOP, EDIT, WIND, TAPE DUMP: MONSEL SET TO CUE TRACKS. OVERRIDING BY KEYS ON PANELS IN ALL MODES POSSIBLE. STATUS RESTORED BY PRESSING STOP.

2.2 **OFF:** MONSEL SET TO CUE TRACKS IN ALL TAPE DECK MODES. OVERRIDING BY KEYS ON PANELS POSSIBLE. STATUS WILL NOT BE RESTORED.

3 **AUTOINPUT:** (DIGITALAUDIO OUTPUTS ONLY)

3.1 **A:** ALL CH TO INPUT IN STOP, WIND, LOC, ROLLBACK (CRAZCANA)

B: ALL READY CH TO INPUT IN STOP, WIND, LOC, ROLLBACK (CRAZAMER).
IN AUTOINPUT A, AS WELL AS AUTOINPUT B, OVERRIDING IS POSSIBLE BY KEYS ON CHANNEL CONTROL PANEL (CCP) AND MONITOR PANEL (MP).

ANALOG ROUTING 1.861.814.00

MONSEL, CHASEL

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	B 3	A 2	B 1	A 0
1 (A1H)	MONSELA	MONITOR CONNECTED TO DIGITAL		X	X	X	X	X	X	0	0
	MONSELB	MONITOR CONNECTED TO CUE TRACKS		X	X	X	X	X	X	0	1
		MONITOR CONNECTED TO TC		X	X	X	X	X	X	1	0
	CHASELA	CHANNELS 1 + 2 ACTIVE		X	X	X	X	0	0	X	X
	CHASELB	CHANNEL 2 ACTIVE		X	X	X	X	0	1	X	X
		CHANNEL 1 ACTIVE		X	X	X	X	1	0	X	X

CUE1GAIN (MIX OR CH1)

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
3 (A5H)	CUE1GAIN	LINE OUTPUT LEVEL CUE1 MIN=AUTOMUTE		0	0	0	0	0	0	0	0
		EXAMPLE: 0dBm		0	0	0	1	1	0	1	0
		EXAMPLE: 6dBm		0	0	1	1	0	0	1	1
		MAX (=20dBm)		1	1	1	1	1	1	1	1

DEFAULT VALUE = 6dBm

CUE2GAIN (CH2 OR AUX3)

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
4 (A7H)	CUE2GAIN	LINE OUTPUT LEVEL CUE2 MIN=AUTOMUTE		0	0	0	0	0	0	0	0
		EXAMPLE: 0dBm		0	0	0	1	1	0	1	0
		EXAMPLE: 6dBm		0	0	1	1	0	0	1	1
		EXAMPLE: TTL LEVEL (5.0Vp)		0	0	0	1	0	1	1	0
		MAX (=20dBm)		1	1	1	1	1	1	1	1

DEFAULT VALUE = 6dBm OR TTL LEVEL.

NOTE: SEND TTL LEVEL, IF AUX4MIX=TRUE. OVERRIDING INHIBITED.

PDM MODULATOR 1.861.811.00

MON/STE, EMPHASIS

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
1 (A1H)	MON/STE	CUE TRACKS STEREO, ELSE MONO=MIX		X	X	X	1	X	X	X	X
	EMPHASIS	EMPHASIS ON		0	X	X	X	X	X	X	X

PDM DEMODULATOR 1.861.812.00

MON/STE, IAN/PDM, HISPDPDM

BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
1 (A1H)	IAN/PDM	PDM SIGNAL ON TAPE		X	X	1	X	X	X	X	X
	MON/STE	CUE TRACKS STEREO		X	X	X	1	X	X	X	X
	HISPDPDM	RESONATOR FOR TS>1m/sec. SELECTED		X	0	X	X	X	X	X	X

NOTE: HISPDPDM IS IN SYSCON-STATUS MEMORY 0580 (HI) AND 0581 (LO BYTE)

NOTE: IAN/PDM: NO AUTO MODE. TO BE SET MANUALLY.

EEPDM

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
2 (A3H)	EEPDM	EE LOOP PDM ON	X	X	X	X	X	X	X	0
	MON/STE1	CUE TRACKS STEREO. AUX3 SPECIAL	X	X	X	X	X	*	X	X
		SEE TABLE BELOW FOR INPUT/REPRO CONF								

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
6 (ABH)		NOT USED	M	B	B	B	B	B	B	L

TRANSLATION TABLE IAN/PDM, MON/STE, DEEMPHASIS FOR ANALOG <<<HARDWARE
MIX/CUE, PDM/ANA, AUTO SETTING <<<SOFTWARE
MIX DENOTES MON, CUE DENOTES STE
EEPDM <<<HARDWARE/SOFTWARE

		REPRO				INPUT			
		IAN		PDM		IAN		PDM	
PDM DEMODULATOR		MON	STE	MON	STE	MON	STE	MON	STE
IAN/PDM PDM=1	AUX3	0	0	0	1	1*	0	1*	1
	AUX4	0	0	1	1	0	0	1	1
DEEMPHASIS ON=1	AUX3	0	1	0	X	0	1	0	X
	AUX4	1	1	X	X	1	1	X	X

NOTE: SIGNAL MON/STE1 FOR DEMODULATOR ONLY INVERSE TO MON/STE IN CONFIGURATIONS DENOTED WITH ASTERSISK (*) {AUX4MIX & INPUT & CUE MODE ONLY}

CUE/PQ DELAY 1.861.816.00

MON/STE

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
1 (A1H)	MON/STE	CUE TRACKS STEREO, ELSE MONO=MIX	X	X	X	1	X	X	X	X

QUALITY DISPLAY 1.861.731.00

QUALDISL

BYTE NO	SIG NAME	DESCRIPTION BITS	MSB 7	6	5	4	3	2	1	0
5 (A9H)	QUALDISL	SIG QUAL CH1 (GRN) QP1 CORRECTION	0	0	0	0	0	0	0	1
		SIG QUAL CH1 (GRN) QP2 CORRECTION	0	0	0	0	0	0	1	0
		SIG QUAL CH1 (GRN) FINGERPRINT	0	0	0	0	0	1	0	0
		SIG QUAL CH1 (GRN) TRACKLOSS	0	0	0	0	1	0	0	0
		SIG QUAL CH1 (YEL) INTERPOLATION 2	0	0	0	1	0	0	0	0
		SIG QUAL CH1 (YEL) INTERPOLATION 1	0	0	1	0	0	0	0	0
		SIG QUAL CH1 (RED) MUTE	0	1	0	0	0	0	0	0
		SIG QUAL CH1 (RED) NO DATA	1	0	0	0	0	0	0	0

QUALDISR

BYTE NO	SIG NAME	DESCRIPTION BITS	MSB 7	6	5	4	3	2	1	0
7 (ADH)	QUALDISR	SIG QUAL CH2 (GRN) QP1 CORRECTION	0	0	0	0	0	0	0	1
		SIG QUAL CH2 (GRN) QP2 CORRECTION	0	0	0	0	0	0	1	0
		SIG QUAL CH2 (GRN) FINGERPRINT	0	0	0	0	0	1	0	0
		SIG QUAL CH2 (GRN) TRACKLOSS	0	0	0	0	1	0	0	0
		SIG QUAL CH2 (YEL) INTERPOLATION 2	0	0	0	1	0	0	0	0
		SIG QUAL CH2 (YEL) INTERPOLATION 1	0	0	1	0	0	0	0	0
		SIG QUAL CH2 (RED) MUTE	0	1	0	0	0	0	0	0
		SIG QUAL CH2 (RED) NO DATA	1	0	0	0	0	0	0	0

	QUALDISL (A9H)								QUALDISR (ADH)							
ADDR.:	80	40	20	10	08	04	02	01	01	02	04	08	10	20	40	80

NOTE: FOR THE COMPOSITION OF SQ-DATA SEE PAR. 3.2, CODEC CONTROL.

3.5
CHANNEL CONTROL PANEL 1.861.370.00

COBUS: RX, TX (8BRECEX, 8BTRMEX)

COBUS ELECTRONICS LOCATED ON CCP TRANSCEIVER 1.861.744.00 WHICH FEEDS CCP KEYBOARD 1.861.743.00

OVERVIEW OF ALL COMMANDS LISTED IN THIS SECTION:

POS	BITS	COMMAND	DESCRIPTION
1	1	SAFECH1	KEY SAFE CH 1
2	1	SAFECH2	KEY SAFE CH 2
3	1	SAFETC	KEY SAFE TC
4	1	SAFEAUX	KEY SAFE AUX
5	1	READYCH1	KEY READY CH 1
6	1	READYCH2	KEY READY CH 2
7	1	READYTC	KEY READY TC
8	1	READYAUX	KEY READY AUX
9	1	CH1INPUT	KEY CH 1 TO INPUT
10	1	CH1SYNC	KEY CH 1 TO SYNC
11	1	CH1REPRO	KEY CH 1 TO REPRODUCE
12	1	CH2INPUT	KEY CH 2 TO INPUT
13	1	CH2SYNC	KEY CH 2 TO SYNC
14	1	CH2REPRO	KEY CH 2 TO REPRODUCE
15	1	PRESENT	CCP PRESENT
16	1	TCINPUT	KEY TC TO INPUT
17	1	TCSYNC	KEY TC TO SYNC
18	1	TCREPRO	KEY TC TO REPRODUCE
19	1	AUXINPUT	KEY AUX 3 TO INPUT IF IN MIX MODE
20	1	AUXSYNC	KEY AUX 3 TO SYNC IF IN MIX MODE
21	1	AUXREPRO	KEY AUX 3 TO REPRO IF IN MIX MODE
22	1	BULSAFE1	LED SAFE CH 1
23	1	BULSAFE2	LED SAFE CH 2
24	1	BULSAFTC	LED SAFE TC
25	1	BULSAAUX	LED SAFE AUX
26	1	BULRDY1	LED READY CH 1
27	1	BULRDY2	LED READY CH 2
28	1	BULRDYTC	LED READY TC
29	1	BULRYAUX	LED READY AUX
30	1	BUL1INPT	LED CH 1 TO INPUT
31	1	BUL1SYNC	LED CH 1 TO SYNC
32	1	BUL1RPRO	LED CH 1 TO REPRODUCE
33	1	BUL1REC	LED CH 1 TO RECORD
34	1	BUL2INPT	LED CH 2 TO INPUT
35	1	BUL2SYNC	LED CH 2 TO SYNC
36	1	BUL2RPRO	LED CH 2 TO REPRODUCE
37	1	BUL2REC	LED CH 2 TO RECORD
38	1	BULTCIN	LED TC TO INPUT
39	1	BULTCSYC	LED TC TO SYNC
40	1	BULTCREP	LED TC TO REPRODUCE
41	1	BULTCREC	LED TC TO RECORD
42	1	BULAUXIN	LED AUX 3 TO INPUT
43	1	BULAUXSY	LED AUX 3 TO SYNC
44	1	BULAUXRP	LED AUX 3 TO REPRODUCE
45	1	BULAUXRC	LED AUX 3 TO RECORD

TX ONLY:

BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
1 (C0H)	SAFECH1	KEY SAFE CH 1 ON		X	X	X	X	X	X	X	1
	SAFECH2	KEY SAFE CH 2 ON		X	X	X	X	X	X	1	X
	SAFETC	KEY SAFE TC ON		X	X	X	X	X	1	X	X
	SAFEAUX	KEY SAFE AUX ON		X	X	X	X	1	X	X	X
	READYCH1	KEY READY CH 1 ON		X	X	X	1	X	X	X	X
	READYCH2	KEY READY CH 2 ON		X	X	1	X	X	X	X	X
	READYTC	KEY READY TC ON		X	1	X	X	X	X	X	X
	READYAUX	KEY READY AUX ON		1	X	X	X	X	X	X	X

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
2 (C2H)	CH1INPUT	KEY CH 1 TO INPUT ON	X	X	X	X	X	X	X	1
	CH1SYNC	KEY CH 1 TO SYNC ON	X	X	X	X	X	X	1	X
	CH1REPRO	KEY CH 1 TO REPRO ON	X	X	X	X	X	1	X	X
	CH2INPUT	KEY CH 2 TO INPUT ON	X	X	X	1	X	X	X	X
	CH2SYNC	KEY CH 2 TO SYNC ON	X	X	1	X	X	X	X	X
	CH2REPRO	KEY CH 2 TO REPRO ON	X	1	X	X	X	X	X	X
	PRESENT	CCP PRESENT	0	X	X	X	X	X	X	X

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
3 (C4H)	TCINPUT	KEY TC TO INPUT ON	X	X	X	X	X	X	X	1
	TCSYNC	KEY TC TO SYNC ON	X	X	X	X	X	X	1	X
	TCREPRO	KEY TO REPRO ON	X	X	X	X	X	1	X	X
	AUXINPUT	KEY AUX 3 TO INPUT ON	X	X	X	1	X	X	X	X
	AUXSYNC	KEY AUX 3 TO SYNC ON	X	X	1	X	X	X	X	X
	AUXREPRO	KEY AUX 3 TO REPRO ON	X	1	X	X	X	X	X	X

RX:

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
1 (C1H)	BULSAFE1	LED SAFE CH 1 ON	X	X	X	X	X	X	X	1
	BULSAFE2	LED SAFE CH 2 ON	X	X	X	X	X	X	1	X
	BULSAFTC	LED SAFE TC ON	X	X	X	X	X	1	X	X
	BULSAAUX	LED SAFE AUX ON	X	X	X	X	1	X	X	X
	BULRDT1	LED READY CH 1 ON	X	X	X	1	X	X	X	X
	BULRDY2	LED READY CH 2 ON	X	X	1	X	X	X	X	X
	BULRDYTC	LED READY TC ON	X	1	X	X	X	X	X	X
	BULRYAUX	LED READY AUX ON	1	X	X	X	X	X	X	X

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
2 (C3H)	BUL1INPT	LED CH 1 TO INPUT ON	X	X	X	X	X	X	X	1
	BUL1SYNC	LED CH 1 TO SYNC ON	X	X	X	X	X	X	1	X
	BUL1RPRO	LED CH 1 TO REPRO ON	X	X	X	X	X	1	X	X
	BUL1REC	LED CH 1 TO RECORD ON	X	X	X	X	1	X	X	X
	BUL2INPT	LED CH 2 TO INPUT ON	X	X	X	1	X	X	X	X
	BUL2SYNC	LED CH 2 TO SYNC ON	X	X	1	X	X	X	X	X
	BUL2RPRO	LED CH 2 TO REPRO ON	X	1	X	X	X	X	X	X
	BUL2REC	LED CH 2 TO RECORD ON	1	X	X	X	X	X	X	X

BYTE NO	SIG NAME	DESCRIPTION BITS	7	6	5	4	3	2	1	0
3 (C5H)	BULTCIN	LED TC TO INPUT ON	X	X	X	X	X	X	X	1
	BULTCSYC	LED TC TO SYNC ON	X	X	X	X	X	X	1	X
	BULTCREP	LED TO REPRO ON	X	X	X	X	X	1	X	X
	BULTCREC	LED TO RECORD ON	X	X	X	X	1	X	X	X
	BULAUXIN	LED AUX 3 TO INPUT ON	X	X	X	1	X	X	X	X
	BULAUXSY	LED AUX 3 TO SYNC ON	X	X	1	X	X	X	X	X
	BULAUXRP	LED AUX 3 TO REPRO ON	X	1	X	X	X	X	X	X
	BULAUXRC	LED AUX 3 TO RECORD ON	1	X	X	X	X	X	X	X

SAFE/READY CONCEPT:

A) RECORD MODE

KEY RECORD AND LED RECORD ILLUMINATED.
QUIT WITH SAFE KEY. IF NO CHANNEL IN RECORD ANYMORE: RECORD KEY NOT ILLUMINATED. SAFE KEY ILLUMINATED WHEN ACTIVATED. READY KEY DISABLED.

RECORD AGAIN WITH SAFE ACTIVATED: IF NO CHANNEL IN READY, RECORD KEY NOT ILLUMINATED. ALWAYS: CHANNELS SET IN SAFE STATUS ARE PROTECTED FROM OVERWRITING. READY KEY ENABLED.

PREPARING FOR RECORD: ACTIVATE READY KEY. KEY WILL TURN ON. WHEN RECORD ADDITIONALLY PRESSED: LED RECORD TURNS ON AND READY IS NOT ILLUMINATED ANYMORE (NOTE: IF THE RECORDER IS ALREADY IN RECORD, PRESSING READY ALONE IS NOT SUFFICIENT, RECORD MUST BE ACTIVATED ADDITIONALLY).

B) REPRODUCE MODE	SAFE AND READY KEYS ENABLED. KEY AND LED'S RECORD WILL NEVER TURN ON. APPROPRIATE SAFE/READY STATUS DISPLAYED.
C) LED COLOR ASSIGNMENT	RECORD : RED SAFE : YEL READY : GRN
D) S/R FUNCTIONS IN MENU	FUNCTIONALLY TREATED IN THE SAME MANNER AS DESCRIBED ABOVE. INDICATION ONLY IF KEYS WITH LED HAVE BEEN ASSIGNED. RECORD MODE INDICATION WITH RECORD KEY ONLY. NO OTHER COLORS THAN YELLOW FOR LED AVAILABLE.

3.6
MONITOR PANEL 1.861.365.00

COBUS: RX, TX (2BRECTRM)

COBUS LOCATED ON MP AMPLIFIER 1.861.746.00 WHICH FEEDS MP KEYBOARD 1.861.745.00

OVERVIEW OF ALL COMMANDS LISTED IN THIS SECTION:

POS	BITS	COMMAND	DESCRIPTION
1	1	KINTAP	KEY INPUT/TAPE
2	1	KMPCH1	KEY CH 1 (REPRODUCE DIGITAL TRACK)
3	1	KMPCH2	KEY CH 2 (REPRODUCE DIGITAL TRACK)
4	1	KMPTC	KEY TC
5	1	KMPCUE1	KEY CUE 1 OR MIX
6	1	KMPCUE2	KEY CUE 2 OR AUX 3
7	1	PRESENT	MP PRESENT
8	1	BMPINP	LED INPUT
9	1	BMPTAP	LED TAPE
10	1	BMPCH1	LED CH 1
11	1	BMPCH2	LED CH 2
12	1	BMPCUE1	LED CUE 1
13	1	BMPMIX	LED MIX
14	1	BMPCUE2	LED CUE 2
15	1	BMPAUX	LED AUX 3

TX ONLY:

BYTE NO	SIG NAME	DESCRIPTION	BITS	MSB 7	6	5	4	3	2	1	0
1 (D0)	KINTAP	KEY INPUT/TAPE TO INPUT ACTIVE		X	X	X	X	X	X	X	1
	KMPCH1	KEY CH 1 ACTIVE		X	X	X	X	X	X	1	X
	KMPCH2	KEY CH 2 ACTIVE		X	X	X	X	X	1	X	X
	KMPTC	KEY TC ACTIVE		X	X	X	1	X	X	X	X
	KMPCUE1	KEY CUE 1 OR MIX ACTIVE		X	X	1	X	X	X	X	X
	KMPCUE2	KEY CUE 2 OR AUX 3 ACTIVE		X	1	X	X	X	X	X	X
	PRESENT	MP PRESENT		0	X	X	X	X	X	X	X

RX:

BYTE NO	SIG NAME	DESCRIPTION	BITS	7	6	5	4	3	2	1	0
1 (D1)	BMPINP	LED INPUT ON		X	X	X	X	X	X	X	0
	BMPTAP	LED TAPE ON		X	X	X	X	X	X	0	X
	BMPCH1	LED CH 1 ON		X	X	X	X	X	0	X	X
	BMPCH2	LED CH 2 ON		X	X	X	X	0	X	X	X
	BMPCUE1	LED CUE 1 ON		X	X	X	0	X	X	X	X
	BMPMIX	LED MIX ON		X	X	0	X	X	X	X	X
	BMPCUE2	LED CUE 2 ON		X	0	X	X	X	X	X	X
	BMPAUX	LED AUX 3 ON		0	X	X	X	X	X	X	X

NOTE: COMMAND /MPSMUTE/ IS FED OVER DEDICATED LINE TO MP AMPLIFIER. FOR MONITOR SPEAKER MUTING MODES SEE PAR. 1.1.

OPERATIONAL DESCRIPTION OF FADER START A..D

General note: In the description below the local and remote keyboards are mentioned. This concerns all keys on the tape deck and the transport keys on the remotes. All these keys may be disabled with the exceptions mentioned below.

When fader start is activated, all transport error modes, unload, power down and tape out commands are enabled, ensuring smooth tape handling in every case.

Only one fader type may be enabled. If an attempt is made to change the type from the keyboard or from one of the remotes, the new setting and function will be active and the old setting and function will be released.

The fader functions (FADER A...D) are independent on the remote settings NO REMOTE, REMOTE A or REMOTE B.

1. FADER START A

In this version, the recorder contains no "fader start ready" key.
As soon as the fader connectors FAD1/FAD2 are activated, the recorder is in PLAY mode and the local and remote keyboards are disabled with the exception of key EMPHASIS and the CURSOR keys. The tape deck monitor and the monitor panel are muted. The phone connector will still be active.
When the fader connectors FAD1/FAD2 are desactivated, STOP mode is initialized and the tape deck monitor and the monitor panel are demuted as soon as STOP is achieved (not before!). Otherwise normal operation is established.
Tape out/unload/td error/power down: FAD1/2 desactivated. When after tape out/unload/td error/power down the key PLAY is pressed and the fader connectors FAD1/2 are activated, the recorder establishes normal play mode (monitor panel demuted). When now the fader connectors FAD1/2 are desactivated, normal play mode continues. After the fader connectors FAD1/2 are activated again, normal fader operation is established as described in this paragraph.

RECORD mode: FAD1/2 connector is ignored.

TAPE DUMP A...D: FAD1/2 connector ignored.

2. FADER START B

In this version an internal and/or external "fader start ready" key is present.
When key "fader start ready" is not closed (signal SR-FADRY not present), any activation of the fader connectors FAD1/FAD2 is ignored. The local and remote keyboards remain activated, independent on the state of the fader connectors FAD1/FAD2. Normal operation.
When key "fader start ready" is closed (signal SR-FADRY present) and the fader connectors FAD1/FAD2 are activated, the recorder is in PLAY mode and the local and remote keyboards are disabled with the exception of key EMPHASIS and the CURSOR keys. The tape deck monitor and the monitor panel are muted. The phone connector will still be active.
When the fader connectors FAD1/FAD2 are desactivated, STOP mode is initialized and the tape deck monitor and the monitor panel are demuted as soon as STOP is achieved (not before!). Otherwise normal operation is established. The fader functions are enabled dependent on the state of the "fader start ready" key.
Tape out/unload/td error/power down: FAD1/2 desactivated. The "fader start ready" key is still active. When after tape out/unload/td error/power down the key PLAY is pressed and the fader connectors FAD1/2 are activated, the recorder establishes normal play mode (monitor panel demuted). When now the fader connectors FAD1/2 are desactivated, normal play mode continues. After the fader connectors FAD1/2 are activated again, the normal fader operation is established as described in this paragraph.

RECORD mode: FAD1/2 connector is ignored.

TAPE DUMP A...D: FAD1/2 connector ignored.

3. FADER START C

In this version an internal and/or external "fader start ready" key is present.
When key "fader start ready" is not closed (signal SR-FADRY not present), any activation of the fader connectors FAD1/FAD2 is ignored. The local and remote keyboards remain activated, independent on the state of the fader connectors FAD1/FAD2. Normal operation.
When key ""fader start ready" is closed (signal SR-FADRY present), the local and remote keyboards are disabled, with the exception of key EMPHASIS, the CURSOR keys and the "fader start ready" key.
When key "fader start ready" is closed (signal SR-FADRY present) and the fader connectors FAD1/FAD2 are activated, the recorder is in PLAY mode and the local and remote keyboards remain disabled with the exception of key EMPHASIS and the CURSOR keys. The tape deck monitor and the monitor panel are muted. The phone connector will still be active.

When the fader connectors FAD1/FAD2 are desactivated, STOP mode is initialized and the tape deck monitor and the monitor panel are demuted as soon as STOP is achieved (not before!). The fader functions are enabled dependent on the state of the "fader start ready" key. Local and remote keyboards remain desactivated (except key EMPHASIS and the CURSOR keys) until key "fader start ready" is released.
Not before key "fader start ready" is disabled will the recorder establish normal operation again.
Tape out/unload/td error/power down: FAD1/2 desactivated. The "fader start ready" key is inactive. When after tape out/unload/td error/power down the key PLAY is pressed and the fader connectors FAD1/2 are activated, the recorder establishes normal play mode (monitor panel demuted). When now the fader connectors FAD1/2 are desactivated, normal play mode continues. After the fader connectors FAD1/2 are activated again, the normal fader operation is established as described in this paragraph.

RECORD mode: FAD1/2 connector is ignored.

TAPE DUMP A...D: impossible, when key "fader start ready" is active. The key "fader start ready" is ignored, when the recorder is in mode TAPE DUMP A...D.

4. FADER START D (Finnland)

In this version an internal and/or external "fader start ready" key is present.
When key "fader start ready" is not closed (signal SR-FADRY not present), any activation of the fader connectors FAD1/FAD2 is ignored. The local and remote keyboards remain activated, independent on the state of the fader connectors FAD1/FAD2. Normal operation.
When key ""fader start ready" is closed (signal SR-FADRY present), the local and remote keyboards remain enabled. All transport functions remain enabled (error modes!).
When key "fader start ready" is closed (signal SR-FADRY present) and the fader connectors FAD1/FAD2 are activated, the recorder is in PLAY mode and the local and remote keyboards remain enabled. The tape deck monitor and the monitor panel are muted. The phone connector will still be active.
To exit from this mode: press any transport key. All commands from the tape deck (tape out, errors, etc.) are enabled. Then the tape deck monitor and the monitor panel are demuted. When the fader connectors FAD1/FAD2 are desactivated, STOP mode is initialized and the tape deck monitor and the monitor panel are demuted as soon as STOP is achieved (not before!), unless any transport key or tape deck command has been activated before. The condition for demuting therefore is: any transport key pressed or STOP achieved. If any transport key or tape deck command has been activated before the FAD1/FAD2 signal is removed, the FAD1/FAD2 command is ignored. Normal operation is established.
Tape out/unload/td error/power down: FAD1/2 desactivated. The "fader start ready" key is still active. When after tape out/unload/td error/power down the key PLAY is pressed and the fader connectors FAD1/2 are activated, the recorder establishes normal play mode (monitor panel demuted). When now the fader connectors FAD1/2 are desactivated, normal play mode continues. After the fader connectors FAD1/2 are activated again, the normal fader operation is established as described in this paragraph.

RECORD mode: FAD1/2 connector is ignored.

TAPE DUMP A...D: FAD1/2 connector ignored.

DEVICE AND SUBDEVICE ADDRESSES FOR SYSCOM RECEIVERS AND TRANSMITTERS

FORMATTING SYSCON ADDRESSES:

1. NORMAL FORMAT

```
AAAA SSSI DDDDDDDD
**** ***
```

A = DEVICE ADDRESS (0 IS NOT PERMITTED)
S = SUBDEVICE ADDRESS
D = DATA BYTE
I = LO, IF TX; HI, IF RX (RELATED TO HARDWARE)
* = SYSCON ADDRESS

2. DIGITAL GAINS (SEE PAGE 8)

```
AAAA SSSI GGGGGGGG
AAAA TTTI DDDDDDDD
```

G = GAIN ADRESS (SEE LIST GAINS CONTROL), ADDRESSES GAIN BLOCK
T = (SUBDEVICE ADDRESS + 1)

DETECTOR 1.861.804.00

8BRECEX, BYTE NO	8BTRMEX RECEIVER DEVICE ADDR	SUBDEV. ADDR	TRANSMITTER SUBDEV.ADDR	DESCRIPTION
1	0001	0001		SAFEAUX1...4, SAFECH1+2 MASSA
1	0001		0000	TDMON1...5, PRESENT
2	0001	0011		RECCUR
-	0001	0101		NOT USED
3	0001	0111		EELOOP1, TDSMUTE, LOSPD, HISPD

NOTE: RX ADDRESSES >7H ARE NOT PERMITTED DUE TO HARDWARE DESIGN!
NOTE: TX ADDRESS 0H ONLY DUE TO HARDWARE DESIGN!

ANALOG INPUT 1.861.752.00

2BRECEX BYTE NO	RECEIVER DEVICE ADDR	SUBDEV. ADDR	TRANSMITTER SUBDEV.ADDR	DESCRIPTION
1	0010	0001		ANAGAIN1
2	0010	0011		ANAGAIN2

ANALOG OUTPUT 1.861.751.00

2BRECEX BYTE NO	RECEIVER DEVICE ADDR	SUBDEV. ADDR	TRANSMITTER SUBDEV.ADDR	DESCRIPTION
1	0010	1101		ANAGAIN4
2	0010	1111		ANAGAIN3

DISPLAY PANEL 1.861.555.00

8BTRMEX, RX VIA PROM

BYTE NO	RECEIVER DEVICE ADDR	SUBDEV. ADDR	TRANSMITTER SUBDEV.ADDR	DESCRIPTION
1	0110		1100	KEYSTAT1
1	0011	0001		TIMEINF1
2	0110		1010	KEYSTAT2, PRESENT
2	0011	0011		TIMEINF2
3	0011	0101		TIMEINF3
4	0011	0111		TIMEINF4
5	0011	1001		TIMEINF5
6	0100	0001		TIMEINF6
7	0100	0011		TIMEINF7
8	0100	0101		TIMEINF8
9	0100	0111		TIMEINF9
10	0100	1001		TIMEINF0
11	0100	1011		DPGAINL
12	0100	1101		DPGAINR
13	0110	0001		DPLVLCH1
14	0110	0011		DPLVLCH2
15	0110	0101		DPCLIPP1,2
16	0110	0111		QUALDISL
17	0110	1001		QUALDISR
18	0110	1011		BULBSTAT1
19	0110	1101		BULBSTAT2

GAINS CONTROL 1.861.853.00

8BTRMEX, 8BRECEX

BYTE NO	RECEIVER DEVICE ADDR	SUBDEV. ADDR	TRANSMITTER SUBDEV.ADDR	DESCRIPTION
1	0101	0001		DDEMPH
1	0101		0000	DPLVLCH1
2	0101	0011		PREVIEW, ADCAES,EELOOP5, HPFILOFF,REPMUTE1/2, MAINMUTE,DAPROSYN
2	0101		0010	DPLVLCH2
3	0101	0101		DISREPRO,EMPHASIS,PUNCH
3	0101		0100	DPCLIPP, PRESENT
4	0101	0111		DPGNADRD(0,1,2,10,11,12)
4	0101		0110	QUALITY
5	0101	1001		DPDIGGN
5	0101		1000	DIEMPH

CODEC CONTROL 1.861.857.00

RECTRMEX (2BYTES)

BYTE NO	RECEIVER DEVICE ADDR	SUBDEV. ADDR	TRANSMITTER SUBDEV.ADDR	DESCRIPTION
1	0111	0001		R/W/CRC ERRORS,REPRO, EELOOP3,SQ-DISPLAY
1	0111		0000	SQ-DISPLAY DATA,CRC ERRORS

TIMING AND TEST 1.861.862.00

8BTRMEX, 8BRECEX

BYTE NO	RECEIVER DEVICE ADDR	SUBDEV. ADDR	TRANSMITTER SUBDEV.ADDR	DESCRIPTION
1	1000	0001		MCVASP1
			0000	EMPHASXF,PRESENT,TTERROR, FSSET,TTLOCK,RANGEOK
2	1000	0011		MCVASP2
3	1000	0101		MCCONW1
4	1000	0111		MCCONW2,RECORD,EELOOP2, EMPHASIS,RTSYNC,PAR/INDI

RT/TC CODEC 1.861.861.00

8BTRMEX,	8BRECEX			
BYTE NO	RECEIVER		TRANSMITTER	
	DEVICE ADDR	SUBDEV. ADDR	SUBDEV.ADDR	DESCRIPTION
1	1001		1110	TXRTCRC
1	1001	0001		FLAG, SAMPFREQ, AUXTRKFO
2	1001		0000	RTADDR0
2	1001	0011		AUXTRKFO, RESERVED
3	1001		0010	RTADDR1
3	1001	0101		RTATOCO1
4	1001		0100	RTADDR2
4	1001	0111		RTATOCO2
5	1001		0110	RTADDR3
5	1001	1001		RTATOCO3
6	1001		1000	RTADDR4
6	1001	1011		RTATOCO4
7	1001		1010	RTADDR5
1	1011		0000	TCREADY
1	1011	0001		FRAMERA, VARILO, TAPETYPE,
1				SYSCFS
2	1011		0010	TCADDR
3	1011		0100	PRESENT, TCREAD

PDM CONTROL 1.861.813.00

8BRECEX,	8BTRMEX			
BYTE NO	RECEIVER		TRANSMITTER	
	DEVICE ADDR	SUBDEV. ADDR	SUBDEV.ADDR	DESCRIPTION
1	1010	0001		MONSEL, CHASEL, MON/STE, EMPHASIS, AN/PDM
1	1010		0000	PRESENT
2	1010	0011		MPSMUTE, EEPDM, MPSMUTE
3	1010	0101		CUE1GAIN
4	1010	0111		CUE2GAIN
5	1010	1001		QUALDISL
6	1010	1011		NOT USED
7	1010	1101		QUALDISR

CHANNEL CONTROL PANEL 1.861.370.00

8BTRMEX,	8BRECEX			
BYTE NO	RECEIVER		TRANSMITTER	
	DEVICE ADDR	SUBDEV. ADDR	SUBDEV.ADDR	DESCRIPTION
1	1100	0001		BULSAFE, BULSAAUX, BULRDT, BULRDYTC, BULRYAUX
1	1100		0000	SAFECH, SAFETC, SAFEAUX, READYCH, READYTC, READYAUX
2	1100	0011		BULINPT, BULSYNC, BULREPRO
2	1100		0010	CHINPUT, CHSYNC, CHREPRO, PRESENT
3	1100	0101		BULTCIN, BULTCSYNC, BULTCREP, BULTCREC, BULAUXIN, BULAUXSY, BULAUXRP, BULAUXRC
3	1100		0100	TCINPUT, TCSYNC, TCREPRO, AUXINPUT, AUXSYNC, AUXREPRO

MONITOR PANEL 1.861.365.00

2BRECTRM				
BYTE NO	RECEIVER		TRANSMITTER	
	DEVICE ADDR	SUBDEV. ADDR	SUBDEV.ADDR	DESCRIPTION
1	1101	0001		BMPINP, BMPTAP, BMPCH, BMPCUE, BMPMIX, BMPAUX
1	1101		0000	KINTAP, KMPCH, KMPTC, KMPCUE, PRESENT

OVERWIEW OF DEVICE ADDRESS ASSIGNMENT:

0H	NOT PERMITTED
1H	DETECTOR (CAGE)
2H	ANALOG INPUT, ANALOG OUTPUT
3H	DISPLAY PANEL, RX BYTES 1...10 (TIMEINF)
4H	DISPLAY PANEL, RX BYTES 11, 12
5H	GAINS CONTROL
6H	DISPLAY PANEL, TX BYTES 1, 2; RX BYTES 13...19
7H	CODEC CONTROL
8H	TIMING + TEST
9H	RT (RT/TC CODEC)
AH	PDM CONTROL
BH	TC (RT/TC CODEC)
CH	CHANNEL CONTROL PANEL
DH	MONITOR PANEL
EH	REMOTE DISPLAY PANEL, TX BYTES 1, 2
FH	NOT USED

DEFINITION OF STANDARD DIAGNOSTIC SCREENS

SCREEN 1: SHOW STATUS SHOWS ALL AUDIO "TOGGLE" SWITCH STATUS INFO, SIGNAL QUALITY, TIME INFO, ERROR FLAGS

SCREEN 2: SHOW GAINS SHOWS ANALOG AND DIGITAL GAIN SETS (CALIBRATED, UNCALIBRATED, HEADROOM)

SCREEN 3: SHOW QUALITY SHOWS ACCUMULATED SIGNAL QUALITY INFO TOGETHER WITH LAP TIME, PLUS ACCUMULATED TRACK SELECTIVE CRC ERROR COUNTERS (DISPLAY OF ONE TRACK ONLY!).

SCREEN 4: SHOW REFERENCE TIME SHOWS ACTUAL REFERENCE TIME CONTROL WORD INFO AND BYTE 00 DI/DO INFO

RT INFO: xxxx xxxx xxxx xxxx (BINARY DATA)
DI INFO: yyyy yyyy (BINARY DATA) DO INFO: zzzz zzzz (BINARY DATA)

TWIN FLAG : ON/OFF
SAMPLING FREQUENCY : 48/44.1/32/44.056 kHz
DASH FORMAT VERSION: S/M/F/X
TC TRACK : MODULATED/UNMODULATED
AUX3 TRACK : CUE/DATA
CUE TRACK(S) : MODULATED/UNMODULATED

CANNEL STATUS DATA	DI	DO
USER	CONSUMER/PROFESSIONAL	CONSUMER/PROFESSIONAL
APPLICATION	AUDIO/NON-AUDIO	AUDIO/NON-AUDIO
SAMPLING FREQUENCY	LOCKED/UNLOCKED	LOCKED/UNLOCKED
EMPHASIS TYPE	CD/CCITT/UNSPECIFIED	CD/CCITT/UNSPECIFIED
SAMPLING FREQUENCY	48/44.1/32 kHz/UNSPEC.	48/44.1/32 kHz/UNSPEC.

SCREEN 5: HELP SHOWS SYSCON COMMANDS ACCORDING TO THE SYSCON MONITOR LIST.

REMARK ON TERMINAL DISPLAYS WITH OPTIONAL FLOPPY:
FORMATTING: 25 LINES, 80 CHARACTERS PER LINE.

DISPLAY TYPES:

USER DISPLAYS	SERVICE DISPLAYS (*)
UA) HELP MENU	SA) STATUS
UB) DIAGNOSTICS	SB) COMMANDS
UC) LEVELS	SC) DEBUGGING MODE

NOTE (*): ACCESS WITH PASSWORD ONLY

USER DISPLAYS:

EXAMPLE: B) DIAGNOSTIC DISPLAYS:
PICTURE 1: CHECKLIST

- PRESENT BITS
- COMMUNICATION TO MASTER
- T+T-CHECK
- RECORD CURRENT
- TTLOCK
- RANGEOK
- AESLOCK
- SAFE/READY STATUS
- INPUT/REPRO
- TEST
- MAINMUTE, REPMUTE, CUEMUTE
- FSSET

- VARISPEED + DEVIATION
- EXTERNAL SYNC MODE
- POWER SUPPLY SYNC
- SERVO REFERENCE
- AUDIO MONITOR MODE (CHASEL, MONSEL)
- TAPETYPE

PICTURE 2: EE-LOOPS WITH SQ-DISPLAY
- DISPLAY EE-LOOPS (0...5, INPUT) TOGETHER WITH SQ-DISPLAY
- CONVENIENT SETTING PROCEDURE FOR EE-LOOPS (0...5, INPUT, EETC, EEPDM, EERT)

PICTURE 3: ERROR CORRECTION
- APPLY WRITE ERRORS (CONVENIENT DISPLAY)
- DISPLAY ALL ERRORS

PICTURE 4: TAPE ERRORS
- DISPLAY SPLICE, INTERPOLATIONS, CRC, ETC.
- TOGETHER WITH TAPE TIME
- HISTOGRAM OF ERRORS (TO BE SELECTED) TOGETHER WITH TIME

SIMULATION AND DISPLAY OF ERRORS ON TERMINALS

```
>>>>>>>>>>>>>>>>>>>>>>>>SPLICE<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

TX FROM SYSCON - LOOP COMMANDS:

DEFINE LOOP:          THROUGH (DEFAULT)                   |FF
                      EELOOP4 (BEFORE CODEC)              |BF
                      EELOOP3 (AFTER CODEC)               |7F + MENU
                      NOERROR (NO ERROR)                  |7F

TX FROM SYSCON - ERROR MENU:

DEFINE TYPE OF ERROR: A LOW ERROR RATE
                      B FIRST PASS P CORRECTION
                      C SECND PASS P CORRECTION
                      D INTERPOLATION
                      E SPLICE
                      F TRACKLOSS
                      G MUTE
                      H NO DATA
                                                           TX:

SPECIFY PARAMETERS:   A (NO SPECS)                        |7F
                      B CH 1                              |52
                      B CH 2                              |51
                      B CH 1+2                            |50
                      C CH 1                              |4B
                      C CH 2                              |43
                      D CH 1 TYPE 1                       |4C
                      D CH 1 TYPE 2                       |4D
                      D CH 1 TYPE 3                       |4E
                      D CH 2 TYPE 1                       |44
                      D CH 2 TYPE 2                       |45
                      D CH 2 TYPE 3                       |46
                      E SHORT BURST CH 1                  |5A
                      E SHORT BURST CH 2                  |59
                      E SHORT BURST CH 1+2                |58
                      E LONG  BURST CH 1                  |5E
                      E LONG  BURST CH 2                  |5D
                      E LONG  BURST CH 1+2                |5C
                      F ONE TRACK WRITE CH 1              |56
                      F ONE TRACK WRITE CH 2              |55
                      F ONE TRACK WRITE CH 1+2            |54
                      F ONE TRACK READ  CH 1              |48
                      F ONE TRACK READ  CH 2              |40
                      F TWO TRACKS READ CH 1              |49
                      F TWO TRACKS READ CH 2              |41
                      G CH 1                              |4F
                      G CH 2                              |47

SPECIFY CRC/INTERL.:  A, H NOT VALID
                      B, C, D, E, F, G VALID
                      TRK 1A (1)                          |F0
                      TRK 2A (2)                          |F1
                      TRK 1C (3)                          |F2
                      TRK 2C (4)                          |F3
                      TRK 1B (5)                          |F4
                      TRK 2B (6)                          |F5
                      TRK 1D (7)                          |F6
                      TRK 2D (8)                          |F7
```

RX FROM CODEC - ERROR DISPLAY:

RX	DISPLAY	CRC	INTERL.	TRK NO.
XF	LOW ERROR RATE CH 1			
FX	LOW ERROR RATE CH 2			
XE	FIRST PASS P CORRECTION CH 1			
EX	FIRST PASS P CORRECTION CH 2			
XD	SECND PASS P CORRECTION CH 1			
DX	SECND PASS P CORRECTION CH 2			
XC	INTERPOLATION CH 1			
CX	INTERPOLATION CH 2			
XB	SPLICE CH 1			
BX	SPLICE CH 2			
XA	TRACKLOSS CH 1			
AX	TRACKLOSS CH 2			
X9	MUTE CH 1			
9X	MUTE CH 2			

EXAMPLE: C) LEVELS
PICTURE 1: DISPLAY GAIN SETTINGS IN dB

PICTURE 2: PEAK DISPLAY (dB) AND CLIPPING DISPLAY

PICTURE 3: CLIPPING AND TIME

SERVICE DISPLAYS:
EXAMPLE: B) COMMAND LIST

PICTURE 1: STATIC COMMANDS

PICTURE 2: DYNAMIC COMMANDS (LOSPD, HISPD, HISPDPDM)

4 Master Monitor

The Master monitor is part of the Master operating system. It is designed to enable a user to control the master section of the D820X digital tape recorder.
The INSTRUCTION SET listed below the monitor commands may be used to control the D820X via computer. It is a comprehensive set of commands including tape deck and audio commands. The optional Serial Interface RS-232 (Part-No. 20.820.432.00 is necessary for this application. Refer also to the ASCII command list in section 2.10.5 in volume 1 of the D820X manuals.
Connect a terminal (supported types below) or a personal computer to the DSub9 connector labeled "RS-232" at the rear panel of the tape transport. See par. 2.4.1.7 in vol. 1 of the D820X manuals for electrical interfacing. Par. 2.10.5 in the same manual describes the operation of the ASCII interface for the master monitor.
After power-up, the Master monitor displays the following message on a properly installed terminal or computer:

```
Welcome to the
D820X MASTER Monitor
Rel. ww/yy (C)PCM SoftTeam
STUDER AG  CH-8105 Regensdorf

Monitor for ESPRIT Terminal

>_
```

The message "Monitor for ESPRIT Terminal" indicates that the system has been installed for an "ESPRIT" terminal. After the logon message, the prompt ">" and and the cursor appears only if the command SYNCHRONIZER is set to off.
There is an alternative way to get the prompt message: after power-up synchronizer default setting is "on". No cursor appears. Type in "ECHO ON".

Commands:

Command format:

```
>command {arg {arg {.. }}}
```

The command name is followed by a delimiter of space, comma, or carriage return. If there are no arguments, carriage return terminates the command; otherwise, a space or a comma separates the command from its argument. A space or comma separates arguments from each other. Some short commands (one character commands) require no carriage return and have no arguments.

Entering Commands:

Commands must be entered next to the prompt without a space. Upper or lowercase letters are allowed. The commands can be abbreviated. For example just type in DU<CR>, instead of DUMP<CR>. The Master monitor searches for the first string in the command table which matches the entered string and executes that command.
Misstyped commands can be corrected with "Back Space" and "Del". "ESC" deletes the command line.
The monitor displays an ERROR message when a command can not be found:

```
ERROR: command not found, use HELP
```

By typing the command "HELP<CR>" or just "H<CR>" all commands known to the system are listed. The listing can be interrupted and continued with the space bar or aborted with "ESC".

If the monitor detects a valid command with wrong or misstyped arguments, it displays an ERROR message and the syntax of the command. Then the command line will be displayed again with the cursor at the position of the wrong argument. This allows for quickly correcting arguments:

```
>SDG 1 I
ERROR: missing parameter

>SDG 1 I
           - cursor placed under wrong argument
```

A command is normally terminated if the prompt appears again without a preceeding error message.
Most arguments can be entered just by their first letters. Arguments for addresses or data can be entered in the following forms:

hexadecimal:	1B	(default)
decimal:	27.D	
binary:	11011.B	
label:	CLRSCR	(see command LABEL)

Detailed Command Description:

General: Arguments in brackets {} are optional. Some commands display the actual status if no argument is given:

Example:

```
>ECHO {Enter}
ECHO STATUS: ON
>_
```

Note: Use HELP to list all available commands.

Monitor Command List:

"@"	(single stroke command) Typing @ recalls the last entered command. The command can be executed with "carriage return" or modified as described in "Entering Commands".
"/"	(single stroke command) Displays data of last entered ROM/RAM memory address.
" "	(single stroke command) Displays data of incremented ROM/RAM memory address (see note below next par.).
"space bar"	(single stroke command) This command has two meanings: 1. Displays data of decremented ROM/RAM memory address (see note below). 2. (no single stroke command) Typing "space bar" and "carriage return" displays the command list with syntax in the same way as the command "HELP".
Note:	The two commands " " and "space bar" can be used solely after commands "/" and "MEMORY".
BREAKPOINT {-}{addr}	This command allows to set break points for software debugging if the current program for test is resident in RAM. Without a parameter, all active break points are displayed. With "addr" a new break point can be specified. To remove a break point from a predefined address, type "-" before "addr".

Note: BREAKPOINT does not interrupt execution but displays the status of all CPU registers if the execution has passed a break point.

CALL addr

It is used to execute a program or subroutine. The program or subroutine must end with an RTS opcode. Call a program subroutine by its absolute address or by its label if it is assigned in the label table (see command LABEL).

COPY addr1 addr2 addr3

Copies an address block begining at address 1 and ending at address 2 from address 3 up.

DREALTIME {addr1} {addr2}

Dumps a block of memory in hex digits and ASCII characters repetitively. Press any character to hold/continue dump or "escape" to abort. Max. block length is 256 bytes. If no address is specified, the same memory block as before is dumped.

DUMP {addr1} {addr2}

Dumps a block of memory in hex digits and ASCII characters. Press any character to hold/continue dump or "escape" to abort. If no addr is specified, the same memory block as before is dumped.

DUMPMOTOROLA {addr1} {addr2} {addr3} {option}

Dumps a block of memory in Motorola format, with address 3 as the new start address of the memory block. If no address is specified, the same memory block as before is dumped.
Options:

- d <xx> = delay <xx> sec
- h = output help list of dump command
- n = output 32 <NUL> after each record
- o <text> = output <text> & <CR>
- w = wait for <EOT> after dump

ECHO {on/off}

Echo character entered by keyboard on the screen.

FILL addr1 addr2 data

Memorycells from address 1 to address 2 are filled with databyte(s). This command initializes a memory block.

HELP

All commands are displayed with syntax. Press any character to hold/continue help or "escape" to abort. "space bar" may be used instead of HELP.

LABEL

Displays a list of software labels with their addresses.

Note: addresses may be different for each version.

LOADMOTOROLA {option}

Loads a block of memory in Motorola format.
Options:

- a = initializes addressbus, needed for piggiback µP
- b = echo all characters before loading begins (S0-record)
- c <xxxx> = copy routine to RAM at addr <xxxx> and overwrite reset v.
- d <xx> = start after <xx> seconds delay
- e = echo all characters
- h = output help list of load command
- l = comment loading with S0 "loading.", S1".", S9 "terminated"
- o <text> = output <text>
- p = support auto write protection
- s = start program after loading
- w = wait after loading for ESC-character

MEMORY {addr}

Displays or changes memory data. Press "space bar" to skip to the next databyte, "   " to skip back to the previous databyte,"/" to repeat the same databyte or "escape" to end. With this command an earlier content of the memory cells can be viewed. When no address is specified, the identical memory block as before is displayed.

MREALTIME {addr}

Displays memory data repetitively. Press any character to abort. If no address is specified, the same memory block as before is displayed.

SEARCH addr1 addr2 ascii_string

Searches for an ASCII string. Searching begins at address 1 and ends at address 2.

Example:

```
>SEARCH 20 1FFF missing : search the word missing in memory 20 to 1FFF
searching...
string found at address 0636
>
```

START task stacksize

Start a defined task. The task may be stopped by itself.

STAT {-r}

Status information is displayed repetitively. For more information see list "DISPLAY OF STATUS" below.

STOP

Stops the monitor task and displays the message: good bye... (for debugging use only).

TYPE

Searches through ROM for terminal drivers. If it has found a driver, it displays the name of the driver on the display. A driver can be confirmed by entering "y". The command TYPE searches for another driver after typing "n". A few terminal drivers are listed below (see also TYPE).

Preinstalled terminal drivers:

ANSI	ANSI terminal (eg. IBM PC)
ASCII	dummy terminal (no special functions)
ESPRIT	Esprit by Hazeltine or by Esprit model 6110
HP	Hewlett Packard model 2392A
TVI905	TeleVideo 905 terminal

Instruction Set

Note: optional statements are denoted with { }, obligatory statements with < >

ABBREV.	INPUT	OUTPUT	DESCRIPTION
LCD	LCD { ,:} CR	CR,LF	Local keyboard disabled
LCE	LCE { ,:} CR	CR,LF	Local keyboard enabled
RMD	RMD { ,:} CR	CR,LF	Remote keyboard disabled
RME	RME { ,:} CR	CR,LF	Remote keyboard enabled
STP	STP { ,:} CR	CR,LF	Function stop of tape deck
PLY	PLY { ,:} CR	CR,LF	Function play of tape deck
FWD	FWD { ,:} CR	CR,LF	Function forward of tape deck
WNF < >	WNF <xxxx> CR (0 <=xxxx<= 5FFF) 5FFFH=15.73 m/sec	CR,LF	Forward with selected speed (x{dec}/1563 = a m/sec) 1 m/sec = 061BH
RWD	RWD { ,:} CR	CR,LF	Function rewind of tape deck
WNR < >	WNR <xxxx> CR (0 <=xxxx<= 5FFF) 5FFFH=15.73 m/sec	CR,LF	Rewind with selected speed (x{dec}/1563 = a m/sec) 1 m/sec = 061BH
EDI	EDI { ,:} CR	CR,LF	Function edit of tape deck
REC	REC { ,:} CR	CR,LF	Function record of tape deck
STM < >	STM <(-)hh{ ,:}mm { ,:}ss{ ,:}xxx> CR with x=ms	CR,LF	Set timer at address < > with -10<hh<24, -1<mm<100, -1<ss<100, -1<xxx<1000 and -10hours < address < 24hours
TID	TID { ,} CR	CR,LF	Display time in the LED displ.
WAD	WAD { ,} CR	CR,LF	Display watch in the LED disp.
RTD	RTD { ,} CR	CR,LF	Display rt in the LED display
TCD	TCD { ,} CR	CR,LF	Display tc in the LED display
TM?	TM? { ,:} CR	(-,h)h:m m:ss:xxx CR,LF	Timer ? show the value from the actual LED display indication
LOC < >	LOC <(-)hh{ ,:}mm { ,:}ss{ ,:}xxx> CR with x=ms	CR,LF	Locate to address < > with -10<hh<24, -1<mm<100, -1<ss<100, -1<xxx<1000 and -10hours < address < 24hours
LMV < >	LMV <xxxxxxxx> CR with xx=1 byte	CR,LF	Wind to counter address < >
MV?	MV? { ,:} CR	xx xx xx xx CR,LF	Show state of move roller counter with xx : 1 byte
REA (i)	REA (i) { ,} CR i=1,2,3,4,F	CR,LF	Set channel i to ready 1,2 : CH1, CH2 3 : TC 4 : AUX (in AUX4MIX) F : all above
SAF (i)	SAF (i) { ,} CR i=1,2,3,4,F	CR,LF	Set channel i to safe 1,2 : CH1, CH2 3 : TC 4 : AUX (in AUX4MIX) F : all above

ABBREV.	INPUT	OUTPUT	DESCRIPTION
INP (i)	INP (i) { ,} CR i=1,2,3,4,F	CR,LF	Set channel i to input 1,2 : CH1, CH2 3 : TC 4 : AUX (in AUX4MIX) F : all above
REP (i)	REP (i) { ,} CR i=1,2,3,4,F	CR,LF	Set channel i to repro 1,2 : CH1, CH2 3 : TC 4 : AUX (in AUX4MIX) F : all above
RTN	RTN { ,:} CR	CR,LF	Rt sync enabled
RTF	RTF { ,:} CR	CR,LF	Rt sync disabled
SBA < >	SBA <xxxx> CR	CR,LF	Set ES bus address (two lower bytes min is 80H and two higher bytes min is 82H)
BA?	BA? { ,:} CR	xxxx CR,LF	Show ES bus address
MSN	MSN { ,} CR	CR,LF	Master safe enabled
MSF	MSF { ,} CR	CR,LF	Master safe disabled
SAP < >	SAP <i,j,x.y> CR with i=1,2 j=O,I -.1<x.y<20.1	CR,LF	Set analog levels (line level j / i: x.y dBm) (O: output, I: input)
SPF < >	SPF <x> { ,} CR x=0,4,6,8,10,15, 20 dBm	CR,LF	Set analog levels fixed (line level x dBm for all channels)
SD0	SD0 { ,} CR	CR,LF	Set digital gain 0 dB for all channels
SDG < >	SDG <i,j,(-)x.y> CR with i=1,2 j=O,I and -10.1<x.y<6.1	CR,LF	Set digital gain j / i: x.y dB (O: output, I: input)
CUL < >	CUL <i,x.y> CR with i=1,2 -0.1<x.y<20.1	CR,LF	Set cue level(s) channel i i: 1,2 ; x.y dBm
GA? < >	GA? <i,j> CR with j=ia,oa, id,od,cu and i=1,2	xx CR,LF	Gain ? ia = input analog oa = output analog id = input digital od = output digital cu = cue
SAI <j>	SAI <j> { ,} CR with j=m,a	CR,LF	Set autoinput j m = mute a = auto
AMU <j>	AMU <j> { ,} CR with j=y,n	CR,LF	Automute yes or no
MAN	MAN { ,} CR	CR,LF	Mute both main channels (soft mute), CH1, CH2
MAF	MAF { ,} CR	CR,LF	Demute both main channels (soft demute), CH1, CH2
AED <j>	AED <j> { ,} CR with j=y,n	CR,LF	Autoedit yes or no
DAI <j>	DAI <j> { ,} CR with j=a,d	CR,LF	Set digital or analog input

ABBREV.	INPUT	OUTPUT	DESCRIPTION
EMP <j>	EMP <j> { ,} CR with j=y,n	CR,LF	Emphasis yes or no
SSR <p>	SSR <p> { ,} CR with p=hi,lo	CR,LF	Set sampling rate to p rate; HI, LO as configured on D820X
AA4 <p>	AA4 <p> { ,} CR with p=mix,cue	CR,LF	Assign aux4 to mix or cue
RCU <j>	RCU <j> { ,} CR with j=ana,auto	CR,LF	Reproduce cue track(s) ana = repro of bias recordings auto= according to flag on rt
HPF <j>	HPF <j> { ,} CR with j=y,n	CR,LF	High pass filter on yes or no
IPC <p>	IPC <p> { ,} CR with p=int,ext, bal,unbal	CR,LF	Sync input intern,extern,balanced or unbalanced (composite video)
OPC <p>	OPC <p> { ,} CR with p=sec,wor	CR,LF	Output clock sector or word
IPT <p>	IPT <p> { ,} CR with p=vid_ebu, ntsc_bw, ntsc_col, syn, wcl	CR,LF	Input video ebu, video ntsc bw, video ntsc col, synchronizer or word clock
SRH	SRH { ,} CR	CR,LF	Rehearsal mode enabled (EE2) Stereo operation only
CRH	CRH { ,} CR	CR,LF	Rehearsal mode disabled (EE2) Stereo operation only
EED	EED { ,} CR	CR, LF	Any connected EE loop disabled
EEL	EEL { ,} CR	CR, LF	EE loop 1 (left) enabled
EER	EER { ,} CR	CR, LF	EE loop 1 (right) enabled
EE1	EE1 { ,} CR	CR, LF	EE loop 1 enabled (both CH)
VDM <p>	VDM <p> { ,} CR with p=%,ips,ht	CR,LF	Set varispeed display mode %, inch per second or half tone
VEN	VEN { ,} CR	CR,LF	Varispeed enabled
VEF	VEF { ,} CR	CR,LF	Varispeed disabled
SVS < >	SVS <(-)x.y> CR with -12.6<x.y<12.6	CR,LF	Set varispeed x.y %
LFT	LFT { ,} CR	CR,LF	Lifter enabled
EDT	EDT { ,} CR	CR,LF	Lifter disabled
FEN	FEN { ,} CR	CR,LF	Fader start ready key enabled
FEF	FEF { ,} CR	CR,LF	Fader start ready key disabled
ROL <p>	ROL <p> CR with p=s,p,r	CR,LF	Set rollback stop, play or record
FRA <p>	FRA <p> { ,} CR with p=25,29.97, 30	CR,LF	Set time code delay to p frames per second
DIS <p>	DIS <p> { ,} CR with p=co,usr, una	CR,LF	Select display of code, user bits or unassigned bits
ST?	ST? { ,} CR	xx CR,LF	Status equates ? see list of STATUS EQUATES

ABBREV.	INPUT	OUTPUT	DESCRIPTION
MS?	MS? { ,} CR	xx CR,LF	Messages from syscon 76543210 └→ VCXO locked, TTLOCK └→ PLL locked, RANGEOK └→ digital input lock.
SO?	SO? <x> { ,} CR	xx CR,LF	Display of status. For x see POSITION in list DISPLAY OF STATUS.
DST	DST { ,} CR	(-,h)h:m m:ss:xxx yy CR,LF	Display of status. Time and tape deck status yy acc. to list STATUS EQUATES x= msec and yy = byte "CODE" (escape with CTRL X or ESC)
STAT	STAT {-r ,} CR with -r = repeat	STATUS CR,LF	Display of status, according to table DISPLAY OF STATUS.
SON	SON { ,:} CR	CR, LF	Synchronizer enabled
SOF	SOF { ,:} CR	CR, LF	Synchronizer disabled
TDN	TDN { ,} CR	CR, LF	Time code delay on
TDF	TDF { ,} CR	CR, LF	Time code delay off
APE	APE { ,} CR	CR, LF	Append mode enabled
APD	APD { ,} CR	CR, LF	Append mode disabled
LWD	LWD { ,} CR	CR, LF	Library wind disabled
LWE	LWE { ,} CR	CR, LF	Library wind enabled
SMS < >	SMS <x.y> CR with 0.1<x.y<15.0	CR, LF	set max. wind speed
SWS < >	SWS <x.y> CR with 0.1<x.y<15.0	CR, LF	set library wind speed
MV?	MV? { ,} CR	CR, LF	Move roller counter ? 4 byte, hex display

Display of Status

To escape from status display mode press ESC; to stop or start in repetitive mode press any other key

POSITION	BYTE	DESCRIPTION
1	1	Status of local keyboard 76543210 → 0: enabled, 1: disabled
2	1	Status of remote keyboard 76543210 → 0: enabled, 1: disabled
3	1	Status of master clock configuration 76543210 → output sync 0: sector, 1: word → ext. ref. input 0: balanced 1: unbalanced 000 → ext. ref. video ebu 001 → ext. ref. video ntsc bw 010 → ext. ref. digital input (bal only) 011 → ext. ref. synchronizer 100 → not used 101 → ext. ref. word sync. 110 → ext. ref. video ntsc col → input 0: extern, 1: intern
4	1	Status of sampling frequency 76543210 → 0: not defined 1: 48 kHz 2: 44.1 kHz 3: 32 kHz 4: 44.056 kHz → 1: lower sampling rate (LO) 2: higher sampling rate (HI)
5	1	Status of actual display 0: timer 1: watch or lap 2: time code 3: reference time
6	1	Status of safe/ready 76543210 (0: ready, 1: safe) → channel 1 → channel 2 → aux 1 (TC) → aux 2 (RT) → aux 3 (ch2/aux) → aux 4 (ch1/mix) → master
7	1	Status of repro/input 76543210 (0: repro, 1: input) → channel 1 → channel 2 → aux 1 (TC) → aux 3 (AUX)
8	1	Status of actual tape type 0: tape A 1: tape B
9	1	Status of fader 76543210 00 → fader A 01 → fader B 10 → fader C 11 → fader B → fader prepared → fader active

POSITION	BYTE	DESCRIPTION
10	1	Status of autoinput 76543210 → autoinput A → autoinput B → 0: automute, 1: autoinput according bit 0 & 1
11	2	Status of toggle keys Base + 0 76543210 → autoedit 0: off, 1: on → automute 0: off, 1: on → rehearse 0: off, 1: on → not used → level display permanent 0: norm 1: input → varispeed 0: off, 1: on → ignore di c word 0: off, 1: on → channel control parallel 0: off 1: on Base + 1 76543210 → not used → high pas filter 0: off, 1: on → not used → play cue 0: analog 1: automatic → input 0: digital, 1: analog → not used → emphasis 0: off, 1: on → quality display 0: off, 1: on
12	4	Status of constant relative tape time {HEX}
13	1	Status of lifter 76543210 → 0: normal control from tape mpu 1: lifter disabled → 1: lifter enabled
14	1	Status of locator 00H : no locator 01H : locator 1 02H : locator 2 03H : locator 3 04H : locator 4 05H : locator 5 06H : last play / stop position 07H : last play / play position 08H : last play / record position 09H : reserved 0AH : set timer 0BH : set address 0CH : rollback / stop time 0DH : rollback / play time 0EH : rollback / record time 0FH : zero
15	1	Status of varispeed display 76543210 00 → inch per second 01 → half tone 10 → % → indicator enhanced
16	1	Status of varispeed selection 00H : -12.5 % 7DH : 0 % → step = 0.1 % (01H) FAH : 12.5 % /
17	4	Status of error handling Base + 0 : error definition Base + 1 : error number Base + 2 : Base + 3 : → address of error definition

Status Equates

CODE	DESCRIPTION
01H	TAPE OUT NOT ACHIEVED
81H	TAPE OUT ACHIEVED
02H	STOP NOT ACHIEVED
82H	STOP ACHIEVED
03H	REWIND NOT ACHIEVED
83H	REWIND ACHIEVED
04H	FORWARD NOT ACHIEVED
84H	FORWARD ACHIEVED
05H	NOT USED
85H	NOT USED
06H	NOT USED
86H	NOT USED
07H	PLAY INTERNAL REFERENCE NOT ACHIEVED
87H	PLAY INTERNAL REFERENCE ACHIEVED
08H	NOT USED
88H	NOT USED
09H	RECORD NOT ACHIEVED
89H	RECORD ACHIEVED
0AH	NOT USED
8AH	NOT USED
0BH	EDIT NOT ACHIEVED
8BH	EDIT ACHIEVED
40H	SHUTTLE BACKWARD NOT ACHIEVED
0C0H	SHUTTLE BACKWARD ACHIEVED
41H	SHUTTLE FORWARD NOT ACHIEVED
0C1H	SHUTTLE FORWARD ACHIEVED
42H	LOCATE WIND BACKWARD NOT ACHIEVED
0C2H	LOCATE WIND BACKWARD ACHIEVED
43H	LOCATE WIND FORWARD NOT ACHIEVED
0C3H	LOCATE WIND FORWARD ACHIEVED
07H	LOCATE PLAY BACKWARD NOT ACHIEVED (*)
07H	LOCATE PLAY BACKWARD ACHIEVED (*)
07H	LOCATE PLAY FORWARD NOT ACHIEVED (*)
07H	LOCATE PLAY FORWARD ACHIEVED (*)
46H	CUEING BACKWARD NOT ACHIEVED
0C6H	CUEING BACKWARD ACHIEVED

CODE	DESCRIPTION
47H	CUEING FORWARD NOT ACHIEVED
0C7H	CUEING FORWARD ACHIEVED
48H	NOT USED
0C8H	NOT USED
49H	NOT USED
0C9H	NOT USED
4AH	NOT USED
0CAH	NOT USED
4BH	NOT USED
0CBH	NOT USED
59H	TAPE DUMP NOT ACHIEVED
0D9H	TAPE DUMP ACHIEVED
5AH	CUT WITH DISTANCE NOT ACHIEVED
0DAH	CUT WITH DISTANCE ACHIEVED
0DDH	BURN-IN TEST ACHIEVED

(*) Composite command/status message. the last transmitted command is indicated. 07h (play internal reference) is indicated after termination of locate play backward or forward.

Examples:

>FWD = fast forward

>STP = stop

>LOC_-01_43_00_800 = locate to address - 1.43.00.800

>SAF_3/ = time code channel SAFE (recording inhibited)

>GA?_1_0A* = request for analog output gain value, channel 1: answer of the recorder e.g. A9 HEX

>SAP_1_O_8.3* = set analog output level channel 1 to 8.3 dBV.7; the old value will be overwritten

>DU_24C_267 = All tape tension parameters are displayed on the terminal in hexadecimal format, e.g.

```
      0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F
0240 xx xx xx xx xx xx xx xx xx xx xx xx 00 83 87 82   ..................
0250 00 00 E5 EC 00 00 00 00 01 2D 82 00 00 00 00 00   .............-....
0260 3C F0 80 00 09 90 00 00 xx xx xx xx xx xx xx xx   <.................
0270 .. .. .. .. .. ..
.... .. ..
....
```

The address of a parameter can be computed by adding an offset which is tabulated in a separate list to the start address.
For start address see section MASTER MONITOR, command "LABEL" in volume III of the D820X manual.
For offset address see section MASTER MONITOR, command "PARAMETER" in volume III of the D820X manual.

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5 Signal Wire List

In order to follow a signal in the recorder, four different references are at disposal:

- the circuit diagram
- the signal name description
- the location pin list
- the signal wire list.

The circuit diagram is needed to locate the signal at the in- and/or output(s) of a board, because after processing the signal is named differently. In the signal name description list, the source and sink of a specific signal is tabulated together with a brief explanation. The most important lists, however, are the location pin list, found at top of the wiring list and the signal wire list at the end. The recorder has been split into assemblies (ASY), groups (GRP) and elements (ELM) and at least these names should be known to gain access to a certain connector and connecting point (PNT) and to understand the wiring list.

The location pin list is used only when assembly, group and element names are known. The assembly names are given at the begin of each volume of the D820X documentation. Drawings with the group and element names can be found in chapter 4, drawings INTERCONNECTION and CONNECTOR LOCATION of the third volume before the wiring list.

The access to the signal wire list is the signal name itself. When this is known, its distribution is tabulated in the signal wire list again by means of assembly, group, element and pin designations. No reference is made whether a signal is sourced or sinked at a specific pin. This information is present in the circuit diagram only.

The signals are referred to by names maximum 8 characters long and have been constructed from various abbreviations, in the digitalaudio section namely starting with

AD	referring to analog input
ANA	referring to analog signals
AUX	referring to cue tracks
CBUS	referring to sysbus interconnections
CC	referring to interconnections codec control/codec memory
CLK	referring to timing lines
DA	referring to analog output
DC	referring to signals between codec and dapro
DD	referring to dapro internal interconnections
DP	referring to display panel
I	designates an inverse (active low) signal
PB	referring to playback signals
PD	referring to cue (pdm)/cue/dapro interconnections
RT	referring to reference track
SSDA	referring to the ssda interconnections (processors)
TC	referring to time code
TT	referring to connections from/to timing and test
WR	referring to write signals

An I after this first block of abbreviations stands for a following inverse (active low) signal. The signal names have been choosen to be as self-explanatory as possible.

5.1
Assemblies and Groups

The electrical hardware of the D820X is subdivided into assemblies (ASY) and groups (GRP). These are interconnected in various forms (see par. 4.3) and the cables are identified (normally at both ends) with a corresponding assembly and group number. The assembly and group arrangements and the main interconnections are listed in the survey of assemblies and groups, par. 4, drawings INTERCONNECTION and CONNECTOR LOCATION.

5.2
Elements and Points

Groups are subdivided into elements (ELM) on which the connecting points (PNT) are located.

5.3
Main Connection Types

Typ	Description	STUDER No.
	Connector, D-type, crimp:	
A	Contact pin, for thin stranded wire	54.02.0451
AA	Contact pin, for heavy stranded wire	54.02.0455
B	Contact socket, for thin stranded wire	54.02.0450
BB	Contact socket, for heavy stranded wire	54.02.0454
	CIS connector:	
C	Contact socket	54.01.0402
D	Contact pin	54.01.0401
	MOLEX connector	
F	Contact socket, for thin stranded wire	54.02.0412
FF	Contact socket, for heavy stranded wire	54.02.0413
G	Solder hook	29.21.6002
H	Wire/stranded wire, tinned (6 mm)	--.--.----
I	Connector, D-type, crimp, contact pin	54.02.1112
	Flat connector, AMP FASTON, crimp, 0.8 x 6.3 mm:	
JM	Contact, female, for thin stranded wire	54.02.0337
J	Contact, female, for heavy stranded wire	54.02.0332
JJ	Contact, fem., for very heavy stranded w.	54.02.0338
K	Wire/stranded wire, stripped 8 mm, tinned 1 mm	--.--.----
L	Wire/stranded wire, tinned 4 mm	--.--.----
M	MOLEX contact pin, for thin stranded wire	54.02.0411
MM	MOLEX contact pin, for heavy stranded w.	54.02.0410
MY	AMP flat connector (blade)	54.02.0344
N	CIS connector, contact pin	54.01.0225
O	Contact spring to EURO card conn. strip	54.01.0376
	PCB contact strip:	
P	Contact strip, for thin stranded wire	54.06.4512
PP	Contact strip, for heavy stranded wire	54.06.4510
Q	Socket strip, contact socket	54.01.0451
R	Connector, D-type, crimp, contact socket	54.02.1111
S	Wire/stranded wire, stripped 4 mm/tinned	--.--.----
T	TERMI-POINT connector on WIRE WRAP post	--.--.----
U	Detent-spring solder contact, crimp	54.03.0201
UU	Detent-spring solder contact, crimp	54.34.6002
V	Contact, female, for heavy stranded wire	54.02.0432
VV	Contact, female, for thin stranded wire	54.02.0474
W	Wrapped	--.--.----
	Flat connector AMP FASTON, crimp, 0.5 x 2.8 mm:	
X	Contact, female, for thin stranded wire	54.02.0325
XX	Contact, female, for heavy stranded wire	54.02.0329
	Flat connector AMP FASTON, crimp, 0.8 x 2.8 mm:	
Y	Contact, female, for thin stranded wire	54.02.0326
YY	Contact, female, for heavy stranded wire	54.02.0327
Z	Not tinned	--.--.----

5.4
Wire Labeling, Color Scheme

Three numbers can be found on the end of each important wire:
these specify the corresponding group, the element, and the connecting point.

The flat cable connectors carry labels at both ends indicating:

- Number of assembly, group and element where the connector itself is to be inserted.
- Either the name of the assembly and group where the connector at the opposite end of the cable is to be connected (the assembly name is stated only, when the other end is located on a different assembly),
  or
  The name of the group where the connector itself is to be inserted.

The labels attached to the ribbon cables also carry a short text, describing the element.

Examples:

- CAPSTAN MOTOR DRIVE AMPLIFIER, GRP39, MOLEX socket ELM03. Wire colors at the matching connector (GRP20, ELM71) yel and red, wires printed 20-71-1 and 20-71-6. That means that the red wire is connected to pin No. 6 of the MOLEX connector.
  The other end of the red wire is marked 20-62-6, i.e. it is connected to the point No. 6 of the wire field ELM62 on group BASIS PCB TAPE DECK, GRP20.
- The flat cable connector plugged to BASIS PCB TAPE DECK GRP20 ELM14 (connection to the FUSE/SUPPLY FAILURE DETECTOR PCB) is labeled as follows:

```
GR.20  EL.14
TO FUSE/SUPP
FAILURE DET.
```

  The connector at the other end of the flat cable is marked with the following tag:

```
GR.59  EL.01
FUSE/SUPPLY
FAILURE DET.
```

Color scheme

0	black	(blk)
1	brown	(brn)
2	red	(red)
3	orange	(org)
4	yellow	(yel)
5	green	(grn)
6	blue	(blu)
7	violet	(vio)
8	grey	(gry)
9	white	(wht)
-	uncolored	(unc)

5.5
Explanations to LOCATION PIN LIST

This list is arranged by assembly, group and element number. If only the signal name is known, consult the SIGNAL WIRE LIST (refer to 4.6).

Example:

```
ASY 11          1.861.080.00  TAPE TRANSPORT D820X   <-- ASSEMBLY

GRP 39          1.820.774.00                         <-- GROUP
               <--  <--  <--  CONTINUATION
==========================================

ELM  3                                               <-- ELEMENT
      FROM GRP20, ELM71                P03
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
 1  OCAPMOT               M
 2
 3
 4
 5
 6  +CAPMOT               M
------------------------------------------
 │     │                  │
 │     │                  │
 │     └ SIGNAL NAME      └ CONNECTION TYPE
 │
 └ CONNECTION POINT
```

Assembly: ASY 11, 1.861.080.00
TAPE TRANSPORT D820X

Group: GRP39, 1.820.774.00
CAPSTAN MOTOR DRIVE AMPLIFIER

Element: ELM03 (MOLEX socket for power supply)

Connection points: PNT01 and PNT06

Signal names: OCAPMOT, +CAPMOT

Colors: none

5.6
Explanations to SIGNAL WIRE LIST

This list is arranged in alphabetic order by signal name (the signal names of the neutrals and the supply voltages are located at the top of the list). If the signal name is known, further information can be obtained by consulting this list. If only the group designation or the group number are known, consult the LOCATION PIN LIST (refer to 4.5).

The signal names are listed in the first column (SIGNAL NAME). The wire color can be found in the second column (COLOR). The fourth column specifies groups, elements, and connecting points on which the signal concerned is available (GRP ELM PNT). This column is arranged in numerical order by group number, *it does not give any information on the way of the signal* through the recorder.

Example (refer to SIGNAL WIRE LIST page 92)

```
********************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T        * 86/12/08  *  10:54  *  P A G E  92 *
********************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                  * 86/08/27 - 00                                 *
********************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE       DESCRIPTION OF ELEMENT                REMARK   ELEMENT NR.
-----------  -----  --  ---------------  -  --  ---------  ------------------------------------  -------  -------------
+ 5V                    11  38   1   9          F          FROM GRP39. ELM02                J01
                        11  39   2   9          M          TO GRP38. ELM01                  P02
-----------  -----  --  ---------------  -  --  ---------  ------------------------------------  -------  -------------
+CAPMOT      2           1  79   1  24                     POWER CONNECTOR (24 PIN MOLEX FEM)
             2           1  79   2  24                     POWER CONNECTOR (24 PIN MOLEX MALE)
             2          11  11   3   3          L          RECTIFIER                       DZ03               70.01.0231
             2          11  12   4   1          L          CAPACITOR                        C04               59.26.7103
             2          11  12   5   7          M          CONNECTOR TO GRP32. ELM01        P01
             2          11  19   1  24          F          FROM GRP32. ELM02                J01
             2          11  19   2  24          M          TO GRP21. ELM02                  P01
                        11  20  14   1                     FUSE FAILURE DETECTOR            P14
                        11  20  14   2                     FUSE FAILURE DETECTOR            P14
             2          11  20  62   6          L          WIRE FIELD
             2          11  20  62   7          L          WIRE FIELD
             2          11  20  70  24          F          FROM GRP21. ELM01                J13
             2          11  20  71   6          F          TO CAPSTAN MOTOR DRIVE AMP.
                        11  32   1   7          F          INPUT FROM GRP12. ELM05          J01
                        11  32   2  24          M          OUTPUT                           P01
                        11  39   3   6          M          FROM GRP20. ELM71                P03
                        11  59   1   1                     FROM GRP20. ELM14                P01
                        11  59   1   2                     FROM GRP20. ELM14                P01
-----------  -----  --  ---------------  -  --  ---------  ------------------------------------  -------  -------------
```

Signal name:	+CAPMOT
Color:	2 (red) or none (flat cable)
Connection type:	M (MOLEX contact pin for thin stranded wire), or F (MOLEX contact socket for thin stranded wire, or L (soldered directly to a PCB)

Part of the signal path:

GRP	ELM	PNT	
11	03	03	Rectifier bridge, "+" connection point, soldered. From here, a red wire leads to the
12	04	01	Smooting capacitor, "+" connection point, soldered. In addition, a
12	05	07	Wire harness with MOLEX connector leads on to the
32	01	07	MOLEX socket on the SWITCHING STABILIZER. The signal is looped through to the
32	02	24	MOLEX plug on the SWITCHING STABILIZER, there the
19	01	24	Wire harness with MOLEX socket is inserted.
19	02	24	MOLEX plug at the other end of the wire harness is connected to
21	02	24	MOLEX socket on the BASIS PCB AUDIO. Here, the signal is looped through to the
21	01	24	MOLEX plug on the BASIS PCB AUDIO, where the
20	70	24	Wire harness with MOLEX socket is plugged in. The other end of the wire harness is soldered to the
20	62	06	Wire field on the BASIS PCB TAPE DECK, the signal is looped through to the
*20	62	07	Wire field on the BASIS PCB TAPE DECK. At the other end of the wire harness that is soldered here to the PCB there is a
20	71	06	MOLEX socket, plugged to the
39	03	06	MOLEX socket on the CAPSTAN MOTOR DRIVE AMPLIFIER

* Here the signal is branched out. This is shown by the group number appearing more than two times in the SIGNAL WIRE LIST.

```
******   *******  *     *  ******   *******  ******            *     *  *****  ******   *****  *     *   *****
*           *     *     *  *     *  *        *     *           *     *    *    *     *    *    **    *  *     *
*           *     *     *  *     *  *        *     *           *     *    *    *     *    *    * *   *  *
 *****      *     *     *  *     *  *****    ******   *******  *  *  *    *    ******     *    *  *  *  *   ***
      *     *     *     *  *     *  *        *   *              * * *     *    *   *      *    *   * *  *     *
      *     *     *     *  *     *  *        *    *             ** **     *    *    *     *    *    **  *     *
******      *      *****   ******   *******  *     *             * *    *****  *     *  *****  *     *   *****

*****************************************************************************************************************
*                                *                                                              *               *
*  PART NUMBER:    1.861.J22.JJ  *   D E 2 0 X   P C M   R E C C R D E R                        *   INDEX: 00   *
*                                *                                                              *               *
*****************************************************************************************************************

                                                                                          P A G E   1   O F   194

S U M M A R Y                                                                             DATE OF ORIGIN: 86/08/27
-----------------                                                                         DATE OF PROC. : 86/12/08

ASSEMBLYS          6                                                                      GROUP NODE           = *
GRCUPS            69                                                                      INTER GROUP NODE     = #
ELEMENTS         257                                                                      DIRECT WIRE TO *     = <
PINS  (TOTAL)   636J      ( UNUSED PINS    1427 )                                         WIRING NOT COMPUTED  = a
MULTIPLE PINS      1
CODING KEYS       15
SIGNALS         1081      ( UNUSED SIGNALS 121 )

RECORDS READ    6711


OPTIONS SPECIFIED :       LOCLIS, SIGLIS, ALLCOL, WIRALL


OPTIONS USED      :       LOCLIS, SIGLIS, ALLCOL, WIRALL


LISTINGS GENERATED :           PAGE      ERR      WRN
------------------------       ----      ---      ---
GROUP SUMMARY                     2        C        0
LOCATIJN PIN LIST                 4        C        1
SIGNAL WIRE LIST                 86        C        0

====>>  NO PUNCH GENERATED     <<====



*****************************************************************************************************************
*    WILLI STUDER AG   *    G R O U P    S U M M A R Y                        *  86/12/08  *  10:54  *  P A G E  2  *
*****************************************************************************************************************
*              1.861.022.J0  D82JX PCM RECCRDER                                *  86/08/27 - 00                  *
*****************************************************************************************************************

ASY  GRP  PART NUMBER       DESCRIPTION                              UNUSED PINS USED PINS  TOT.PINS MULT.PINS  COD.KEYS   TOT.ELM  REM
---  ---  ---------------   ---------------------------------------  ----------- ---------  -------- ---------  --------   -------  ---
 1   7J       1.861.731.J0  SIGNAL QUALITY DISPLAY                             0        26        26         0         0         1
 1   73       1.861.583.JJ  INTERCONNECTICN BOX                                2        73        75         J         0         3
 1   74       1.861.582.00  EXTERNAL PANEL CONNECTOR                           3        22        25         0         0         1
 1   76       1.861.586.00  CUE INPUT/OUTPUT                                   0        18        18         0         1         4
 1   79       1.861.726.J0  POWER SUPPLY (DELTA-MOLEX PRINT)                   0        98        98         J         0         4
 1   8J       1.861.890.J0  BACKPANEL RACK                                   551       565      1116         J         0        19
---  ---  ---------------   ---------------------------------------  ----------- ---------  -------- ---------  --------   -------  ---
 2    1       1.861.895.JC  BACKPANEL CAGE                                   197       262       459         0         0         7
 2    2       1.861.803.J0  HEADBLOCK CONNECTOR WRITE                          2        24        26         0         0         1
 2    3       1.861.801.J0  HEADBLOCK CONNECTOR REAC                           0        25        25         0         0         1
 2    4       1.861.802.JC  TAPE DECK MONITOR CONNECTORS                       1         8         9         0         0         2
 2    5         71.01.J108  INTERNAL SPEAKER                                   0         2         2         0         C         1
 2    6         54.24.01J2  INTERNAL PHONE PLUG                                2         4         6         0         0         1
---  ---  ---------------   ---------------------------------------  ----------- ---------  -------- ---------  --------   -------  ---
 3    1       1.861.742.J0  DISPLAY PANEL PROCESSCR (DP PRCC)                  5        46        51         0         0         2
 3    2       1.861.744.J0  CHANNEL CONTRCL PANEL TRANSCEIVER                 10        76        86         0         C         4
 3    3       1.861.746.00  MONITOR PANEL AMPLIFIER (MP AMP)                   7        64        71         1         0         6
 3    4         71.01.0108  SPEAKER RIGHT                                      0         2         2         0         0         1
 3    5         71.01.0108  SPEAKER LEFT                                       0         2         2         0         0         1
 3    6         54.24.0102  PHONES PLUG                                        0         4         4         J         0         1
 3    7       1.912.001.30  TANDEM POTENTIOMETER                               0         6         6         0         0         1
 3    8       1.861.745.00  MONITOR PANEL KEYBOARD(MP KYB)                     7        18        25         0         0         1
 3    9       1.861.741.J0  DISPLAY PANEL KEYBOARC (DP KYB)                    2        24        26         J         0         1
 3   1J       1.861.743.J0  CHANNEL CONTROL PANEL KEYBOARD                     4        32        36         J         0         2
---  ---  ---------------   ---------------------------------------  ----------- ---------  -------- ---------  --------   -------  ---
 4 .  1       1.861.885.00  BACKPANEL BCX                                    362      1376      1738         J         0        26
 4    2       1.861.775.00  ANALOG I/O                                         2        24        26         0         0         6
 4    3                     DI/DO/TC/RT/CLOCK/TEST/BNC                        44        61       105         0         0        15
---  ---  ---------------   ---------------------------------------  ----------- ---------  -------- ---------  --------   -------  ---
 5    1       1.116.361.20  READ HEAD                                          0        24        24         C         0         1
 5    2       1.116.861.1C  WRITE HEAC                                         2        24        26         0         0         1
 5    3       1.861.805.00  HEAD PREAMPLIFIER                                . 0        49        49         0         0         3
---  ---  ---------------   ---------------------------------------  ----------- ---------  -------- ---------  --------   -------  ---
11    1         54.04.0111  POWER INPUT                                        0         3         3         0         0         1
11    2                     EARTH CONNECTCRS                                   0         3         3         0         0         3
11    3         55.12.0001  POWER SWITCH                                       0         4         4         0         0         1
11    4       1.180.337.J0  LINE FILTER                                        6        15        21         0         0         1
11    5                     FUSES (LINE)                                       0         4         4         0         0         2
11    6                     DISTRIBUTOR                                        8        24        32         0         0         1
11    7                     VOLTAGE SELECTOR                                   0        12        12         0         0         3
11    8       1.820.520.J0  MAIN TRANSFCRMER (SPOOLING MOTCRS)                 0        44        44         0         0         5
11    9       1.820.520.J0  MAIN TRANSFCRMER                                   0        32        32         0         0         4
11   10                     FUSES (SECONDARY)                                  0         6         6         0         0         3
11   11                     RECTIFIERS                                         4        32        36         0         0         4
11   12                     CAPACITORS                                         2        18        20         0         0         5
11   18       1.820.592.J0  SUPPLY CABLE, SPOOLING MOTORS                     12        36        48         0         0         3
11   19       1.820.591.J0  SUPPLY CABLE, ELECTRONICS                          0        48        48         0         0         2
11   20       1.820.701.J0  BACKPANEL TAPE DECK                              113       961      1074         0         8        44
11   25                     REMOTE CONTRCL PANEL                               2        72        74         0         3         5
11   26       1.820.729.J0  SERIAL REMOTE INTERFACE                            3        32        35         0         1         2
11   27       1.820.738.JC  PARALLEL REMCTE INTERFACE                          2       115       117         0         2         5
```

```
****************************************************************************************************************
*   WILLI STUDER AG   *   G  R  O  U  P     S  U  M  M  A  R  Y                   *  86/12/08  *  10:54  *   P A G E   3   *
****************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                        *
****************************************************************************************************************

ASY  GRP  PART NUMBER     DESCRIPTION                            UNUSED PINS USED PINS  TOT.PINS MULT.PINS  COD.KEYS   TOT.FLM  REM
---  ---  --------------  -------------------------------------  ----------- ---------  -------- ---------  ---------  -------  ---
11   30     1.820.775.00  SPOOLING MOTOR DRIVE AMPLIFIER RIGHT             3        27        30         0          0        3
11   31     1.820.777.00  SPOOLING MOTOR SUPPLY                           12        46        58         0          0        4
11   32     1.820.790.00  SWITCHING STABILIZER                             2        34        36         0          0        2
11   33     1.820.775.00  SPOOLING MOTOR DRIVE AMPLIFIER LEFT              3        27        30         0          0        3
11   34       59.26.6223  CAPACITOR, BELONGING TO GRP 31                   0        12        12         0          0        2
11   36     1.820.190.00  TORQUE MOTOR, LEFT                               1        11        12         0          0        2
11   37     1.820.190.00  TORQUE MOTOR, RIGHT                              1        11        12         0          0        2
11   38     1.021.695.00  CAPSTAN MOTOR (ELECTRONICS BOARD)               13        15        28         0          0        5
11   39     1.820.774.00  CAPSTAN MOTOR DRIVE AMPLIFIER                    4        30        34         0          0        3
11   40     1.080.230.00  BRAKE ASSEMBLY, LEFT                             1         2         3         0          0        1
11   41     1.080.240.00  BRAKE ASSEMBLY, RIGHT                            1         2         3         0          0        1
11   42     1.820.772.00  TAPE TENSION SENSOR, LEFT                        3         7        10         0          0        1
11   43     1.820.772.00  TAPE TENSION SENSOR, RIGHT                       3         7        10         0          0        1
11   44     1.820.793.00  OPTO SENSOR                                      0        10        10         0          0        1
11   45     1.820.770.00  MOVE SENSOR                                      1         9        10         0          0        1
11   46     1.820.773.00  TAPE LIFTER CONTROL, LEFT                        5        11        16         0          0        1
11   47     1.820.773.00  TAPE LIFTER CONTROL, RIGHT                       5        11        16         0          0        1
11   48     1.820.240.00  PUSHBUTTON ASSEMBLY                              4        42        46         0          0        3
11   49     1.820.250.00  EDIT ASSEMBLY                                    1        14        15         0          0        2
11   50     1.820.768.00  TAPE DECK DISPLAY DRIVER                         5       117       122         0          0        4
11   51     1.820.230.00  COMMAND UNIT                                     3        37        40         0          0        1
11   52     1.820.233.00  LCD DISPLAY UNIT                                 0        16        16         0          0        1
11   59     1.820.737.00  FUSE/SUPPLY FAILURE DETECTOR                     1        15        16         0          0        1
---  ---  --------------  -------------------------------------  ----------- ---------  -------- ---------  ---------  -------  ---
                          DISTRIBUTED IN   69 GRP      TOTAL :          1427      4933      6360         1         15      257
================================================================================================================================
```

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****************************************************************************************************************
*   WILLI STUDER AG   *   L  O  C  A  T  I  O  N     P  I  N     L  I  S  T       *  86/12/08  *  10:54  *   P A G E   4   *
****************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                        *
****************************************************************************************************************
ASY  1        1.861.310.00  RACK ELECTRONICS

GRP 70        1.861.731.00                     GRP 73        1.861.583.00                    GRP 73        1.861.583.00
   SIGNAL QUALITY DISPLAY                         INTERCONNECTION BOX                                  <--  <--  <--  CONTINUATION
======================================         ======================================        ======================================

ELM  1        1.861.731.00                     ELM  1        1.861.583.00                    ELM  2        1.861.583.00
   SIGNAL QUALITY    (26-PIN FLATCABLE)           BOX-RACK 1 (RACK)    (25 PIN D-SUB)           BOX-RACK 2 (RACK)    (25 PIN D-SUB)
--------------------------------------         --------------------------------------        --------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE        F        PNT SIGNAL NAME  COLOR LV TYPE        F       PNT SIGNAL NAME  COLOR LV TYPE        F
--------------------------------------         --------------------------------------        --------------------------------------
 1  +5.6                                        1  DACCLT1                                    1  SSDAICLK
 2  +5.6                                        2  DACOLT2                                    2  SSDAIDTR
 3  +5.6                                        3  PDIBCLK                                    3  SSDAIMTX
 4  +5.6                                        4  PCIWCLK                                    4  SSDAIMRX
 5  +5.6                                        5  PDIDATA                                    5  SSDAICTS
 6  +5.6                                        6  TIREFINT                                   6  CBUSICLK
 7  DSPB-7                                      7  TIREFEXT                                   7  CBUSIAD
 8  DSPB-6                                      8  WRITR1                                     8  CBUSIDAT
 9  DSPB-5                                      9  WRITR2                                     9
10  DSPB-4                                     10  PBITR1                                    10  +0V-
11  DSPB-3                                     11  PBITR2                                    11  +0V-
12  DSPB-2                                     12  PCICLK3                                   12  +0V-
13  DSPB-1                                     13  PCCLK3                                    13  +0V-
14  DSPB-0                                     14  GNDCAC1                                   14  SSDACLK
15  DSPA-0                                     15  GNDCAC2                                   15  SSDADTR
16  DSPA-1                                     16  PDBCLK                                    16  SSDAMTX
17  DSPA-2                                     17  PDWCLK                                    17  SSDAMRX
18  DSPA-3                                     18  PDDATA                                    18  SSDACTS
19  DSPA-4                                     19  TREFINT                                   19  CBUSCLK
20  DSPA-5                                     20  TREFEXT                                   20  CBUSAD
21  DSPA-6                                     21  WRTR1                                     21  CBUSDAT
22  DSPA-7                                     22  WRTR2                                     22  +20PC
23  +0.0                                       23  PBTR1                                     23  +20PC
24  +0.0                                       24  PBTR2                                     24  +20PC
25  +0.0                                       25  K-PWRUP                                   25  +20PC
26  +0.0                                       --------------------------------------        --------------------------------------
--------------------------------------                                              ./.                                            ./.
```

```
* WILLI STUDER AG  *  LOCATION PIN LIST                * 86/12/08 * 10:54 * PAGE 6 *
*          1.861.022.00  D820X PCM RECORDER             * 86/08/27 - 00            *
ASY 1      1.861.310.00  RACK ELECTRONICS                     <-- <-- <-- CONTINUATION
```

GRP 79 1.861.726.00
POWER SUPPLY (DELTA-MOLEX PRINT)

ELM 1
POWER CONNECTOR (24 PIN MOLEX FEM)

PNT	SIGNAL NAME	COLOR	LV	TYPE	F
1	+5.6	3			
2	+5.6	3			
3	+5.6SENS	3			
4	TD-C76K	9			
5	+0.0	0			
6	+0.0	0			
7	T-PWRON	5			
8	+0.0	0			
9	+0.0	0			
10	+0.0	0			
11	+15.0	2			
12	-15.0	6			
13	+0.0	0			
14	+0.0	0			
15	+24.0	7			
16	+REMSUP	8			
17	+STABIN	3			
18	-STABIN	5			
19	-26.0	9			
20	+26.0	1			
21	+0.0	0			
22	+0.0	0			
23	0CAPMOT	4			
24	+CAPMOT	2			

./.

GRP 79 1.861.726.00
<-- <-- <-- CONTINUATION

ELM 2
POWER CONNECTOR (24 PIN MOLEX MALE)

PNT	SIGNAL NAME	COLOR	LV	TYPE	F
1	+5.6	3			
2	+5.6	3			
3	+5.6SENS	3			
4	TD-C76K	9			
5	+0.0	0			
6	+0.0	0			
7	T-PWRON	5			
8	+0.0	0			
9	+0.0	0			
10	+0.0	0			
11	+15.0	2			
12	-15.0	6			
13	+0.0	0			
14	+0.0	0			
15	+24.0	7			
16	+REMSUP	8			
17	+STABIN	3			
18	-STABIN	5			
19	-26.0	9			
20	+26.0	1			
21	+0.0	0			
22	+0.0	0			
23	0CAPMOT	4			
24	+CAPMOT	2			

./.

GRP 79 1.861.726.00
<-- <-- <-- CONTINUATION

ELM 3
CAGE PWR CONNECTOR (25 PIN D-SUB)

PNT	SIGNAL NAME	COLOR	LV	TYPE	F
1	+5.6V				
2	+5.6V				
3	+5.6V				
4	+5.6V				
5	+15.0				
6	+15.0				
7	+0.0				
8	+0.0				
9	+0.0				
10	-15.0				
11	-15.0				
12	MONTR1				
13	MONTR2				
14	+5.6V				
15	+5.6V				
16	+5.6V				
17	+15.0				
18	+15.0				
19	+15.0				
20	+0.0				
21	+0.0				
22	-15.0				
23	-15.0				
24	-15.0				
25	MONGND				

./.

```
* WILLI STUDER AG  *  LOCATION PIN LIST                * 86/12/08 * 10:54 * PAGE 5 *
*          1.861.022.00  D820X PCM RECORDER             * 86/08/27 - 00            *
ASY 1      1.861.310.00  RACK ELECTRONICS                     <-- <-- <-- CONTINUATION
```

GRP 73 1.861.583.00
<-- <-- <-- CONTINUATION

ELM 3 1.861.583.00
BOX-RACK 3 (CAGE) (25 PIN D-SUB)

PNT	SIGNAL NAME	COLOR	LV	TYPE	F
1	BLISYN				
2	WRICLK4				
3	WRIDOUT				
4	WRISYC				
5	DTRI8				
6	DTRI7				
7	DTRI6				
8	DTRI5				
9	DTRI4				
10	DTRI3				
11	DTRI2				
12	DTRI1				
13					
14	BLSYN				
15	WRCLK4				
16	WRDOUT				
17	WRSYC				
18	DTR8				
19	DTR7				
20	DTR6				
21	DTR5				
22	DTR4				
23	DTR3				
24	DTR2				
25	DTR1				

GRP 74 1.861.582.00
EXTERNAL PANEL CONNECTOR

ELM 1 1.861.C00.00
RACK-CCP/DP (25-PIN D-SUB)

PNT	SIGNAL NAME	COLOR	LV	TYPE	F
1	DPCBCLK				
2	DPCBAD				
3	DPCBDAT				
4					
5	+0.0				
6	+0.0				
7	+0.0				
8	+0.0				
9	+0.0				
10	+0.0				
11	+0.0				
12	+0.0				
13	+0.0				
14	DPCBICLK				
15	DPCBIAD				
16	DPCBIDAT				
17					
18					
19	+20PC				
20	+20PC				
21	+20PC				
22	+20PC				
23	+20PC				
24	+20PC				
25	+20PC				

GRP 76 1.861.586.00
CUE INPUT/OUTPUT

ELM 1 1.861.586.00
AUX 4 OUTPUT PLUG (XLR MALE)

PNT	SIGNAL NAME	COLOR	LV	TYPE	F
1	AUX4GNDO	8			
2	AUX4OUT	9			
3	AUX4IOUT	6			

ELM 2 1.861.586.00
AUX 3 OUTPUT PLUG (XLR MALE)

PNT	SIGNAL NAME	COLOR	LV	TYPE	F
1	AUX3GNDO	8			
2	AUX3OUT	9			
3	AUX3IOUT	6			

ELM 3 1.861.586.00
AUX 3 INPUT PLUG (XLR FEMALE)

PNT	SIGNAL NAME	COLOR	LV	TYPE	F
1	AUX3GNDI	8			
2	AUX3IN	9			
3	AUX3IIN	6			

ELM 4 1.861.586.00
CUE I/O (CIS 10 FEMALE)

PNT	SIGNAL NAME	COLOR	LV	TYPE	F
1	AUX4OUT	9			
2	AUX4GNDO	8			
3	AUX4IOUT	6			
4	KEY				
5	AUX3OUT	9			
6	AUX3GNDO	8			
7	AUX3IOUT	6			
8	AUX3IN	9			
9	AUX3GNDI	8			
10	AUX3IIN	6			

```
*****************************************************************************************************************************
*    WILLI STUDER AG   *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T              *  86/12/08  *  10:54  *   P A G E   7   *
*****************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                             *  86/08/27 - 00                      *
*****************************************************************************************************************************
ASY  1        1.861.310.00  RACK ELECTRONICS                                                        <--  <--  <--  CONTINUATION
```

```
GRP 79        1.861.726.00
             <--  <--  <--  CONTINUATION
==========================================

ELM  4
   POWER CONNECTOR RACK (25 PIN D-SUB)
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  +5.6
 2  +5.6
 3  +5.6
 4  +20PC
 5  +20PC
 6  +0.0
 7  +0.0
 8  +15.0
 9  +15.0
10  -15.0
11  -15.0
12  MONTR1
13  MONTR2
14  +5.6
15  +5.6
16  +20PC
17  +20PC
18  +0.0
19  +0.0
20  +15.0
21  +15.0
22  -15.0
23  -15.0
24  K-PWRUP
25  MONGND
------------------------------------------
```

```
GRP 80        1.861.890.00
   BACKPANEL RACK
==========================================

ELM  1        1.861.816.00
   CUE/PQ DELAY
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1A +0.0
 1B +0.0
 1C +0.0
 2A PDCLK3
 2B
 2C PDICLK3
 3A
 3B
 3C
 4A AUX3IN
 4B
 4C AUX3IIN
 5A AUX3GNDI
 5B
 5C
 6A WRTR11
 6B
 6C WRITR11
 7A
 7B
 7C
 8A
 8B
 8C TRENTEST
 9A
 9B
 9C
10A
10B
10C
11A PDBCLK
11B
11C PCIBCLK
12A PDWCLK
12B
12C PCIWCLK
13A PDDATA
13B
13C PCIDATA
14A -15.0
14B -15.0
14C -15.0
15A +0.0
15B +0.0
15C +0.0
16A +15.0
16B +15.0
                                       ./.
```

```
GRP 80        1.861.890.00
             <--  <--  <--  CONTINUATION
==========================================

ELM  1        1.861.816.00
             <--  <--  <--  CONTINUATION
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
16C +15.0
17A SWTR
17B
17C SACLK
18A SAH2
18B
18C SAH1
19A
19B
19C RES1
20A DP1
20B
20C DP0
21A DP3
21B
21C DP2
22A DP5
22B
22C DP4
23A DP7
23B
23C DP6
24A DP9
24B
24C DP8
25A DP11
25B
25C DP10
26A DP13
26B
26C DP12
27A DP15
27B
27C DP14
28A
28B
28C RES2
29A
29B
29C RES3
30A
30B
30C RES4
31A IMON/STF
31B
31C
32A +5.6
                                       ./.
```

```
*****************************************************************************************************************************
*    WILLI STUDER AG   *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T              *  86/12/08  *  10:54  *   P A G E   8   *
*****************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                             *  86/08/27 - 00                      *
*****************************************************************************************************************************
ASY  1        1.861.310.00  RACK ELECTRONICS                                                        <--  <--  <--  CONTINUATION
```

```
GRP 80        1.861.890.00
             <--  <--  <--  CONTINUATION
==========================================

ELM  1        1.861.816.00
             <--  <--  <--  CONTINUATION
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
32B +5.6
32C +5.6
------------------------------------------
                                       ./.
```

```
GRP 80        1.861.890.00
             <--  <--  <--  CONTINUATION
==========================================

ELM  2        1.861.811.00
   PDM MODULATOR
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1A +0.0
 1B +0.0
 1C +0.0
 2A
 2B
 2C
 3A
 3B
 3C
 4A WRTR11
 4B
 4C WRITR11
 5A WRTR12
 5B
 5C WRITR12
 6A
 6B
 6C
 7A
 7B
 7C
 8A
 8B
 8C
 9A
 9B
 9C
10A
10B
10C
11A
11B
11C
12A
12B
12C
13A
13B
13C
14A -15.0
14B -15.0
14C -15.0
15A +0.0
15B +0.0
15C +0.0
16A +15.0
16B +15.0
                                       ./.
```

```
GRP 80        1.861.890.00
             <--  <--  <--  CONTINUATION
==========================================

ELM  2        1.861.811.00
             <--  <--  <--  CONTINUATION
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
16C +15.0
17A SACLK
17B
17C SWTR
18A SAH1
18B
18C SAH2
19A RES1
19B
19C EMPH
20A DP0
20B
20C DP1
21A DP2
21B
21C DP3
22A DP4
22B
22C DP5
23A DP6
23B
23C DP7
24A DP8
24B
24C DP9
25A DP10
25B
25C DP11
26A DP12
26B
26C DP13
27A DP14
27B
27C DP15
28A RES2
28B
28C RES5
29A RES3
29B
29C RES6
30A RES4
30B
30C RES7
31A IMON/STF
31B
31C
32A +5.6
                                       ./.
```

```
******************************************************************************************************************************
*   WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T                       *  86/12/08  *  10:54  *   P A G E   9   *
******************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                       *  86/08/27 - 00                        *
******************************************************************************************************************************
ASY  1        1.861.310.00  RACK ELECTRONICS                                                    <--  <--  <--  CONTINUATION

GRP 80        1.861.890.00                 GRP 80        1.861.890.00                 GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION                <--  <--  <--  CONTINUATION                <--  <--  <--  CONTINUATION
========================================   ========================================   ========================================

ELM  2        1.861.811.00                 ELM  3        1.861.812.00                 ELM  3        1.861.812.00
           <--  <--  <--  CONTINUATION          PDM DEMODULATOR 1                                <--  <--  <--  CONTINUATION
----------------------------------------   ----------------------------------------   ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F   PNT SIGNAL NAME  COLOR LV TYPE          F   PNT SIGNAL NAME  COLOR LV TYPE          F
----------------------------------------   ----------------------------------------   ----------------------------------------
32B +5.6                                    1A +0.0                                   16C +15.0
32C +5.6                                    1B +0.0                                   17A
----------------------------------------    1C +0.0                                   17B
                                     ./.    2A                                        17C
                                            2B                                        18A TRACK12
                                            2C                                        18B
                                            3A                                        18C TRACK11
                                            3B                                        19A
                                            3C                                        19B
                                            4A PBTR11                                 19C
                                            4B                                        20A
                                            4C PBITR11                                20B
                                            5A                                        20C
                                            5B                                        21A RES16
                                            5C                                        21B
                                            6A WRTR11                                 21C RES17
                                            6B                                        22A IAN/PDM
                                            6C WRITR11                                22B
                                            7A EEPDM                                  22C HISPD
                                            7B                                        23A RES8
                                            7C                                        23B
                                            8A PBTR12                                 23C RES9
                                            8B                                        24A RES10
                                            8C PBITR12                                24B
                                            9A                                        24C RES11
                                            9B                                        25A RES12
                                            9C                                        25B
                                           10A WRTR12                                 25C RES13
                                           10B                                        26A RES14
                                           10C WRITR12                                26B
                                           11A                                        26C RES15
                                           11B                                        27A
                                           11C                                        27B
                                           12A                                        27C
                                           12B                                        28A RES5
                                           12C                                        28B
                                           13A                                        28C
                                           13B                                        29A RES6
                                           13C                                        29B
                                           14A -15.0                                  29C
                                           14B -15.0                                  30A RES7
                                           14C -15.0                                  30B
                                           15A +0.0                                   30C
                                           15B +0.0                                   31A IMON/STE
                                           15C +0.0                                   31B
                                           16A +15.0                                  31C
                                           16B +15.0                                  32A +5.6
                                                                                ./.                                        ./.
```

```
******************************************************************************************************************************
*   WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T                       *  86/12/08  *  10:54  *   P A G E  10   *
******************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                       *  86/08/27 - 00                        *
******************************************************************************************************************************
ASY  1        1.861.310.00  RACK ELECTRONICS                                                    <--  <--  <--  CONTINUATION

GRP 80        1.861.890.00                 GRP 80        1.861.890.00                 GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION                <--  <--  <--  CONTINUATION                <--  <--  <--  CONTINUATION
========================================   ========================================   ========================================

ELM  3        1.861.812.00                 ELM  4        1.861.812.00                 ELM  4        1.861.812.00
           <--  <--  <--  CONTINUATION          PDM DEMODULATOR 2                                <--  <--  <--  CONTINUATION
----------------------------------------   ----------------------------------------   ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F   PNT SIGNAL NAME  COLOR LV TYPE          F   PNT SIGNAL NAME  COLOR LV TYPE          F
----------------------------------------   ----------------------------------------   ----------------------------------------
32B +5.6                                    1A +0.0                                   16C +15.0
32C +5.6                                    1B +0.0                                   17A
----------------------------------------    1C +0.0                                   17B
                                     ./.    2A                                        17C
                                            2B                                        18A TRACK11
                                            2C                                        18B
                                            3A                                        18C
                                            3B                                        19A
                                            3C                                        19B
                                            4A PBTR12                                 19C
                                            4B                                        20A
                                            4C PBITR12                                20B
                                            5A                                        20C
                                            5B                                        21A RES16
                                            5C                                        21B
                                            6A WRTR12                                 21C RES17
                                            6B                                        22A IAN/PDM
                                            6C WRITR12                                22B
                                            7A EEPDM                                  22C HISPD
                                            7B                                        23A RES9
                                            7C                                        23B
                                            8A                                        23C RES8
                                            8B                                        24A RES11
                                            8C                                        24B
                                            9A                                        24C RES10
                                            9B                                        25A RES13
                                            9C                                        25B
                                           10A                                        25C RES12
                                           10B                                        26A RES15
                                           10C                                        26B
                                           11A                                        26C RES14
                                           11B                                        27A
                                           11C                                        27B
                                           12A                                        27C
                                           12B                                        28A
                                           12C                                        28B
                                           13A                                        28C
                                           13B                                        29A
                                           13C                                        29B
                                           14A -15.0                                  29C
                                           14B -15.0                                  30A
                                           14C -15.0                                  30B
                                           15A +0.0                                   30C
                                           15B +0.0                                   31A IMON/STE
                                           15C +0.0                                   31B
                                           16A +15.0                                  31C
                                           16B +15.0                                  32A +5.6
                                                                                ./.                                        ./.
```

```
***************************************************************************************************************************
*   WILLI STUDER AG   *   LOCATION   PIN   LIST                                 * 86/12/08  *  10:54  *  PAGE 11  *
***************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                          *
***************************************************************************************************************************
ASY  1         1.861.310.00  RACK ELECTRONICS                                           <--  <--  <--  CONTINUATION

GRP 80         1.861.890.00
          <--  <--  <--  CONTINUATION
==========================================

ELM  4         1.861.812.00
          <--  <--  <--  CONTINUATION
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
32B +5.6
32C +5.6
------------------------------------------
                                       ./.

GRP 80         1.861.890.00
          <--  <--  <--  CONTINUATION
==========================================

ELM  5         1.861.815.00
    SPARE 1
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1A +0.0
 1B +0.0
 1C +0.0
 2A
 2B
 2C
 3A
 3B
 3C
 4A
 4B
 4C
 5A
 5B
 5C
 6A
 6B
 6C
 7A
 7B
 7C
 8A
 8B
 8C
 9A
 9B
 9C
10A
10B
10C
11A
11B
11C
12A
12B
12C
13A
13B
13C
14A -15.0
14B -15.0
14C -15.0
15A +0.0
15B +0.0
15C +0.0
16A +15.0
16B +15.0
                                       ./.

GRP 80         1.861.890.00
          <--  <--  <--  CONTINUATION
==========================================

ELM  5         1.861.815.00
          <--  <--  <--  CONTINUATION
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
16C +15.0
17A
17B
17C
18A
18B
18C
19A
19B
19C
20A
20B
20C
21A
21B
21C
22A
22B
22C
23A
23B
23C
24A
24B
24C
25A
25B
25C
26A
26B
26C
27A
27B
27C
28A
28B
28C
29A
29B
29C
30A
30B
30C
31A
31B
31C
32A +5.6
                                       ./.
```

```
***************************************************************************************************************************
*   WILLI STUDER AG   *   LOCATION   PIN   LIST                                 * 86/12/08  *  10:54  *  PAGE 12  *
***************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                          *
***************************************************************************************************************************
ASY  1         1.861.310.00  RACK ELECTRONICS                                           <--  <--  <--  CONTINUATION

GRP 80         1.861.890.00
          <--  <--  <--  CONTINUATION
==========================================

ELM  5         1.861.815.00
          <--  <--  <--  CONTINUATION
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
32B +5.6
32C +5.6
------------------------------------------
                                       ./.

GRP 80         1.861.890.00
          <--  <--  <--  CONTINUATION
==========================================

ELM  6         1.861.814.00
    ANALOG ROUTING
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1A +0.0
 1B +0.0
 1C +0.0
 2A DACOUT1
 2B
 2C GNDDAC1
 3A DACOUT2
 3B
 3C GNDDAC2
 4A PBITR1
 4B
 4C +0.0
 5A
 5B
 5C
 6A AUX3OUT
 6B
 6C AUX3IOUT
 7A AUX3GNDO
 7B
 7C AUX4GNDO
 8A AUX4OUT
 8B
 8C AUX4IOUT
 9A
 9B
 9C
10A
10B
10C
11A
11B
11C
12A
12B
12C
13A
13B
13C
14A -15.0
14B -15.0
14C -15.0
15A +0.0
15B +0.0
15C +0.0
16A +15.0
16B +15.0
                                       ./.

GRP 80         1.861.890.00
          <--  <--  <--  CONTINUATION
==========================================

ELM  6         1.861.814.00
          <--  <--  <--  CONTINUATION
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
16C +15.0
17A
17B
17C MONTR1
18A MONGND
18B
18C MONTR2
19A TRACK12
19B
19C TRACK11
20A
20B
20C
21A
21B
21C
22A
22B
22C
23A D1
23B
23C D0
24A D3
24B
24C D2
25A D5
25B
25C D4
26A D7
26B
26C D6
27A RES19
27B
27C RES18
28A PHOSFLA
28B
28C PHOSFLB
29A CHASFL1
29B
29C CHASFL2
30A ICOUT1WR
30B
30C ICOUT2WR
31A
31B
31C
32A +5.6
                                       ./.
```

```
**************************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T                   *  86/12/08  *  10:54  *   P A G E  13    *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                 *  86/08/27 - 00                           *
**************************************************************************************************************************
ASY  1       1.861.310.00  RACK ELECTRONICS                                                 <--  <--  <--  CONTINUATION

GRP 80        1.861.890.00                GRP 80        1.861.890.00                GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
======================================    ======================================    ======================================

ELM  6        1.861.814.00                ELM  7        1.861.813.00                ELM  7        1.861.813.00
           <--  <--  <--  CONTINUATION       PDM CONTROL                                       <--  <--  <--  CONTINUATION
--------------------------------------    --------------------------------------    --------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE       F    PNT SIGNAL NAME  COLOR LV TYPE       F    PNT SIGNAL NAME  COLOR LV TYPE       F
--------------------------------------    --------------------------------------    --------------------------------------
32B +5.6                                   1A +0.0                                  16C +15.0
32C +5.6                                   1B +0.0                                  17A EMPH
--------------------------------------     1C +0.0                                  17B
                                   ./.     2A CBUSCLK                               17C EEPDM
                                           2B                                       18A
                                           2C CBUSICLK                              18B
                                           3A CBUSAD                                18C
                                           3B                                       19A
                                           3C CBUSIAD                               19B
                                           4A CBUSDAT                               19C
                                           4B                                       20A MPSMUTE
                                           4C CBUSIDAT                              20B
                                           5A                                       20C
                                           5B                                       21A RES16
                                           5C                                       21B
                                           6A DSPA-0                                21C RES17
                                           6B                                       22A HISPD
                                           6C DSPA-1                                22B
                                           7A DSPA-2                                22C IAN/PDM
                                           7B                                       23A D0
                                           7C DSPA-3                                23B
                                           8A DSPA-4                                23C D1
                                           8B                                       24A D2
                                           8C DSPA-5                                24B
                                           9A DSPA-6                                24C D3
                                           9B                                       25A D4
                                           9C DSPA-7                                25B
                                          10A DSPB-0                                25C D5
                                          10B                                       26A D6
                                          10C DSPB-1                                26B
                                          11A DSPB-2                                26C D7
                                          11B                                       27A RES18
                                          11C DSPB-3                                27B
                                          12A DSPB-4                                27C RES19
                                          12B                                       28A PHOSELB
                                          12C DSPB-5                                28B
                                          13A DSPB-6                                28C PHOSELA
                                          13B                                       29A CHASEL2
                                          13C DSPB-7                                29B
                                          14A -15.0                                 29C CHASEL1
                                          14B -15.0                                 30A ICOUT2WR
                                          14C -15.0                                 30B
                                          15A +0.0                                  30C ICOUT1WR
                                          15B +0.0                                  31A
                                          15C +0.0                                  31B
                                          16A +15.0                                 31C IMON/STE
                                          16B +15.0                                 32A +5.6
                                                                             ./.                                       ./.
```

```
**************************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T                   *  86/12/08  *  10:54  *   P A G E  14    *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                 *  86/08/27 - 00                           *
**************************************************************************************************************************
ASY  1       1.861.310.00  RACK ELECTRONICS                                                 <--  <--  <--  CONTINUATION

GRP 80        1.861.890.00                GRP 80        1.861.890.00                GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
======================================    ======================================    ======================================

ELM  7        1.861.813.00                ELM  8        1.861.817.00                ELM  8        1.861.817.00
           <--  <--  <--  CONTINUATION       DISPLAY INTERFACE                                 <--  <--  <--  CONTINUATION
--------------------------------------    --------------------------------------    --------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE       F    PNT SIGNAL NAME  COLOR LV TYPE       F    PNT SIGNAL NAME  COLOR LV TYPE       F
--------------------------------------    --------------------------------------    --------------------------------------
32B +5.6                                   1A +0.0                                  16C +15.0
32C +5.6                                   1B +0.0                                  17A
--------------------------------------     1C +0.0                                  17B
                                   ./.     2A CBUSCLK                               17C
                                           2B                                       18A
                                           2C CBUSICLK                              18B
                                           3A CBUSAD                                18C
                                           3B                                       19A
                                           3C CBUSIAD                               19B
                                           4A CBUSDAT                               19C
                                           4B                                       20A DPCBIDAT
                                           4C CBUSIDAT                              20B
                                           5A                                       20C DPCBDAT
                                           5B                                       21A DPCBIAD
                                           5C                                       21B
                                           6A                                       21C DPCBAD
                                           6B                                       22A DPCBICLK
                                           6C                                       22B
                                           7A                                       22C DPCBCLK
                                           7B                                       23A
                                           7C                                       23B
                                           8A                                       23C
                                           8B                                       24A
                                           8C                                       24B
                                           9A                                       24C
                                           9B                                       25A
                                           9C                                       25B
                                          10A                                       25C
                                          10B                                       26A
                                          10C                                       26B
                                          11A                                       26C
                                          11B                                       27A
                                          11C                                       27B
                                          12A                                       27C
                                          12B                                       28A
                                          12C                                       28B
                                          13A                                       28C
                                          13B                                       29A
                                          13C                                       29B
                                          14A -15.0                                 29C
                                          14B -15.0                                 30A
                                          14C -15.0                                 30B
                                          15A +0.0                                  30C
                                          15B +0.0                                  31A
                                          15C +0.0                                  31B
                                          16A +15.0                                 31C
                                          16B +15.0                                 32A +5.6
                                                                             ./.                                       ./.
```

```
******************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T              *  86/12/08  *  10:54  *  P A G E  15  *
******************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                               *  86/08/27 - 00                    *
******************************************************************************************************************
ASY  1         1.861.310.00  RACK ELECTRONICS                                                <--  <--  <--  CONTINUATION
```

```
GRP 80         1.861.890.00
            <--  <--  <--  CONTINUATION
=========================================

ELM  8         1.861.817.00
            <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
32B +5.6
32C +5.6
-----------------------------------------
                                      ./.
```

```
GRP 80         1.861.890.00
            <--  <--  <--  CONTINUATION
=========================================

ELM  9
    SPARE 2
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1A +0.0
 1B +0.0
 1C +0.0
 2A
 2B
 2C
 3A
 3B
 3C
 4A
 4B
 4C
 5A
 5B
 5C
 6A
 6B
 6C
 7A
 7B
 7C
 8A
 8B
 8C
 9A
 9B
 9C
10A
10B
10C
11A
11B
11C
12A
12B
12C
13A
13B
13C
14A -15.0
14B -15.0
14C -15.0
15A +0.0
15B +0.0
15C +0.0
16A +15.0
16B +15.0
                                      ./.
```

```
GRP 80         1.861.890.00
            <--  <--  <--  CONTINUATION
=========================================

ELM  9
            <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
16C +15.0
17A
17B
17C
18A
18B
18C
19A
19B
19C
20A
20B
20C
21A
21B
21C
22A
22B
22C
23A
23B
23C
24A
24B
24C
25A
25B
25C
26A
26B
26C
27A
27B
27C
28A
28B
28C
29A
29B
29C
30A
30B
30C
31A
31B
31C
32A +5.6
                                      ./.
```

```
******************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T              *  86/12/08  *  10:54  *  P A G E  16  *
******************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                               *  86/08/27 - 00                    *
******************************************************************************************************************
ASY  1         1.861.310.00  RACK ELECTRONICS                                                <--  <--  <--  CONTINUATION
```

```
GRP 80         1.861.890.00
            <--  <--  <--  CONTINUATION
=========================================

ELM  9
            <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
32B +5.6
32C +5.6
-----------------------------------------

ELM 12
    RACK-CAGE              (25 PIN D-SUB)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  CBUSIDAT
 2  CBUSIAD
 3  CBUSICLK
 4
 5
 6  WRITR1
 7  WRITR2
 8  WRITR11
 9  WRITR12
10  PBITR1
11  PBITR2
12  PBITR11
13  PBITR12
14  CBUSDAT
15  CBUSAD
16  CBUSCLK
17
18  WRTR1
19  WRTR2
20  WRTR11
21  WRTR12
22  PBTR1
23  PBTR2
24  PBTR11
25  PBTR12
-----------------------------------------
                                      ./.
```

```
GRP 80         1.861.890.00
            <--  <--  <--  CONTINUATION
=========================================

ELM 13
    RACK PWR CONNECTOR   (25 PIN D-SUB)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  +5.6
 2  +5.6
 3  +5.6
 4  +20PC
 5  +20PC
 6  +0.0
 7  +0.0
 8  +15.0
 9  +15.0
10  -15.0
11  -15.0
12  MONTR1
13  MONTR2
14  +5.6
15  +5.6
16  +20PC
17  +20PC
18  +0.0
19  +0.0
20  +15.0
21  +15.0
22  -15.0
23  -15.0
24  K-PWRUP
25  MONGND
=========================================
                                      ./.
```

```
GRP 80         1.861.890.00
            <--  <--  <--  CONTINUATION
=========================================

ELM 14
    BOX-RACK 1 TO REAR PANEL TD
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  DACOUT1
 2  DACOUT2
 3  PDIBCLK
 4  PDIWCLK
 5  PDIDATA
 6  TIREFINT
 7  TIREFEXT
 8  WRITR1
 9  WRITR2
10  PBITR1
11  PBITR2
12  PDICLK3
13  PDCLK3
14  GNDDAC1
15  GNDDAC2
16  PDBCLK
17  PDWCLK
18  PDDATA
19  TREFINT
20  TREFEXT
21  WRTR1
22  WRTR2
23  PBTR1
24  PBTR2
25  K-PWRUP
-----------------------------------------
                                      ./.
```

```
**************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N    P I N    L I S T             * 86/12/08  *  10:54  *  P A G E  17  *
**************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                             * 86/08/27 - 00                     *
**************************************************************************************************************
ASY  1        1.861.310.00  RACK ELECTRONICS                                          <--  <--  <--  CONTINUATION
```

```
GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 15        1.861.583.00
    BOX-RACK 2 TO REAR PANEL TD
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
  1  SSDAICLK
  2  SSDAIDTR
  3  SSDAIMTX
  4  SSDAIMRX
  5  SSDAICTS
  6  CBUSICLK
  7  CBUSIAD
  8  CBUSIDAT
  9
 10  +0V-
 11  +0V-
 12  +0V-
 13  +0V-
 14  SSDACLK
 15  SSDADTR
 16  SSDAMTX
 17  SSDAMRX
 18  SSDACTS
 19  CBUSCLK
 20  CBUSAD
 21  CBUSDAT
 22  +20PC
 23  +20PC
 24  +20PC
 25  +20PC
------------------------------------------
                                        ./.
```

```
GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 16
    RACK-CUE I/O          (25 PIN D-SUB)
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
  1  AUX4OUT      9
  2  AUX4IOUT     6
  3  AUX3OUT      9
  4  AUX3IOUT     6
  5  AUX3IN       9
  6  AUX3IIN      6
  7
  8
  9
 10
 11
 12
 13
 14  AUX4GNDO     4
 15
 16  AUX3GNDO     4
 17
 18  AUX3GNDI     4
 19
 20
 21
 22
 23
 24
 25
------------------------------------------
                                        ./.
```

```
GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 17
    SIGNAL QUALITY DISPL.(25 PIN D-SUB)
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
  1  +5.6
  2  +5.6
  3  +5.6
  4  DSPB-7
  5  DSPB-5
  6  DSPB-3
  7  DSPB-1
  8  DSPA-0
  9  DSPA-2
 10  DSPA-4
 11  DSPA-6
 12  +0.0
 13  +0.0
 14  +5.6
 15  +5.6
 16  +5.6
 17  DSPB-6
 18  DSPB-4
 19  DSPB-2
 20  DSPB-0
 21  DSPA-1
 22  DSPA-3
 23  DSPA-5
 24  DSPA-7
 25  +0.0
------------------------------------------
                                        ./.
```

```
**************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N    P I N    L I S T             * 86/12/08  *  10:54  *  P A G E  18  *
**************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                             * 86/08/27 - 00                     *
**************************************************************************************************************
ASY  1        1.861.310.00  RACK ELECTRONICS                                          <--  <--  <--  CONTINUATION
```

```
GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 18
    DISPLAY PANEL/CCP    (25 PIN D-SUB)
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
  1  DPCBCLK
  2  DPCBAD
  3  DPCBDAT
  4
  5
  6  +0.0
  7  +0.0
  8  +0.0
  9  +0.0
 10  +0.0
 11  +0.0
 12  +0.0
 13  +0.0
 14  DPCBICLK
 15  DPCBIAD
 16  DPCBIDAT
 17
 18
 19  +20PC
 20  +20PC
 21  +20PC
 22  +20PC
 23  +20PC
 24  +20PC
 25  +20PC
------------------------------------------
                                        ./.
```

```
GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 19
    RACK-MONITOR PANEL    (D-SUB CRIMP)
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
  1  DPCBCLK      2
  2  DPCBAD       7
  3  DPCBDAT      8
  4  MPSMUTE      4
  5  +0.0         0
  6  +0.0         0
  7  +5.6         2
  8  +5.6         2
  9  +15.0        3
 10  +15.0        3
 11  +15.0        3
 12  MCNTR1       9
 13  MCNTR2       6
 14  DPCBICLK     4
 15  DPCBIAD      9
 16  DPCBIDAT     5
 17  +0.0         0
 18  +0.0         0
 19  +5.6         2
 20  +5.6         2
 21  +5.6         2
 22  -15.0        1
 23  -15.0        1
 24  -15.0        1
 25  MONGND       4
------------------------------------------
                                        ./.
```

```
GRP 80        1.861.890.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 21
    RACK-TAPE DECK (SERVO)(26 PIN FLAT)
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
  1  +0.0
  2  TD-MVCLK
  3  +0.0
  4  TD-MVDIR
  5  +0.0
  6
  7  +0.0
  8  TREFINT
  9  +0.0
 10  TIREFINT
 11  +0.0
 12  TREFEXT
 13  +0.0
 14  TIREFEXT
 15  +0.0
 16
 17  +0.0
 18
 19  +0.0
 20
 21  +0.0
 22
 23  +0.0
 24
 25  +0.0
 26
------------------------------------------
                                        ./.
```

```
**********************************************************************************************************************
*    WILLI STUDER AG    *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T          *  86/12/08  *  10:54  *   P A G E  19   *
**********************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                           *  86/08/27 - 00                        *
**********************************************************************************************************************
ASY  1         1.861.310.00  RACK ELECTRONICS                                                    <--  <--  <--  CONTINUATION

GRP 80         1.861.890.00
           <--  <--  <--  CONTINUATION
============================================

ELM 22
    RACK-TAPE DECK (SSDA) (26 PIN FLAT)
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F
--------------------------------------------
 1  +0.0
 2  TAD-RESA
 3  +0.0
 4  TAD-RESB
 5  +0.0
 6  TAD-RESC
 7  +0.0
 8  SSDACLK
 9  +0.0
10  SSDAICLK
11  +0.0
12  SSDAMTX
13  +0.0
14  SSDAIMTX
15  +0.0
16  SSDADTR
17  +0.0
18  SSDAIDTR
19  +0.0
20  SSDACTS
21  +0.0
22  SSDAICTS
23  +0.0
24  SSDAMRX
25  +0.0
26  SSDAIMRX
--------------------------------------------
```

```
**********************************************************************************************************************
*    WILLI STUDER AG    *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T          *  86/12/08  *  10:54  *   P A G E  20   *
**********************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                           *  86/08/27 - 00                        *
**********************************************************************************************************************
ASY  2         1.861.300.00  CAGE ELECTRONICS

GRP  1         1.861.895.00                       GRP  1         1.861.895.00                       GRP  1         1.861.895.00
    BACKPANEL CAGE                                                 <--  <--  <--  CONTINUATION                     <--  <--  <--  CONTINUATION
============================================      ============================================      ============================================

ELM  1         1.861.895.00                       ELM  2         1.861.895.00                       ELM  3         1.861.895.00
    REARPANEL TD (BOX)       (D-SUB 25P)              POWER DELTA MOLEX (P2)  (D-SUB 25P)               BACKPANEL RACK           (D-SUB 25P)
--------------------------------------------      --------------------------------------------      --------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F      PNT SIGNAL NAME  COLOR LV TYPE             F      PNT SIGNAL NAME  COLOR LV TYPE             F
--------------------------------------------      --------------------------------------------      --------------------------------------------
 1  BLISYN                                         1  +5.6V                                          1  CBUSIDAT
 2  WRICLK4                                        2  +5.6V                                          2  CBUSIAD
 3  WRIDOUT                                        3  +5.6V                                          3  CBUSICLK
 4  WRISYO                                         4  +5.6V                                          4
 5  DTRI8                                          5  +15.0                                          5
 6  DTRI7                                          6  +15.0                                          6  WRITR1
 7  DTRI6                                          7  +0.0                                           7  WRITR2
 8  DTRI5                                          8  +0.0                                           8  WRITR11
 9  DTRI4                                          9  +0.0                                           9  WRITR12
10  DTRI3                                         10  -15.0                                         10  PBITR1
11  DTRI2                                         11  -15.0                                         11  PBITR2
12  DTRI1                                         12  MONTR1                                        12  PBITR11
13                                                13  MONTR2                                        13  PBITR12
14  BLSYN                                         14  +5.6V                                         14  CBUSDAT
15  WRCLK4                                        15  +5.6V                                         15  CBUSAD
16  WRDOUT                                        16  +5.6V                                         16  CBUSCLK
17  WRSYO                                         17  +15.0                                         17
18  DTR8                                          18  +15.0                                         18  WRTR1
19  DTR7                                          19  +15.0                                         19  WRTR2
20  DTR6                                          20  +0.0                                          20  WRTR11
21  DTR5                                          21  +0.0                                          21  WRTR12
22  DTR4                                          22  -15.0                                         22  PBTR1
23  DTR3                                          23  -15.0                                         23  PBTR2
24  DTR2                                          24  -15.0                                         24  PBTR11
25  DTR1                                          25  MONGND                                        25  PBTR12
--------------------------------------------      --------------------------------------------      --------------------------------------------
                                         ./.                                               ./.                                               ./.
```

```
**************************************************************************************************************************
*     WILLI STUDER AG    *     L O C A T I O N     P I N     L I S T            *  86/12/08  *  10:54  *   P A G E  21   *
**************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                 *  86/08/27 - 00                        *
**************************************************************************************************************************
ASY  2         1.861.300.00  CAGE ELECTRONICS                                                  <--  <--  <--  CONTINUATION

GRP  1         1.861.895.00
             <--  <--  <--  CONTINUATION
=======================================

ELM  4         1.861.804.00
   DETECTOR
---------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE        F
---------------------------------------
 1A PBTR4
 1B
 1C PBTR3
 2A PBTR6
 2B
 2C PBTR5
 3A PBTR8
 3B
 3C PBTR7
 4A PBTR10
 4B
 4C PBTR9
 5A TDMPRES
 5B
 5C
 6A WRTR4
 6B
 6C WRTR3
 7A WRTR6
 7B
 7C WRTR5
 8A WRTR8
 8B
 8C WRTR7
 9A WRTR10
 9B
 9C WRTR9
10A DTR1
10B
10C DTRI1
11A DTR2
11B
11C DTRI2
12A DTR3
12B
12C DTRI3
13A DTR4
13B
13C DTRI4
14A -10
14B -10
14C -10
15A +0.0
15B +0.0
15C +0.0
16A +10
16B +10
                                    ./.

GRP  1              1.861.895.00
             <--  <--  <--  CONTINUATION
=======================================

ELM  4              1.861.804.00
             <--  <--  <--  CONTINUATION
---------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE        F
---------------------------------------
16C +10
17A DTR5
17B
17C DTRI5
18A DTR6
18B
18C DTRI6
19A DTR7
19B
19C DTRI7
20A DTR8
20B
20C DTRI8
21A CBUSCLK
21B
21C CBUSICLK
22A CBUSAD
22B
22C CBUSIAD
23A CBUSDAT
23B
23C CBUSIDAT
24A UREC
24B SPARE51
24C MON1
25A MON2
25B SPARE52
25C MON3
26A MON4
26B C3
26C MON5
27A IREC1
27B C2
27C IREC2
28A IRECD1
28B C1
28C IRECD2
29A IREC11
29B C0
29C IREC12
30A IMASSA
30B HISPD
30C SPARE50
31A SPARE53
31B TCMOD
31C ITDSMUTE
32A +5.6V
                                    ./.

GRP  1   ·     1.861.895.00
             <--  <--  <--  CONTINUATION
=======================================

ELM  4         1.861.804.00
             <--  <--  <--  CONTINUATION
---------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE        F
---------------------------------------
32B +5.6V
32C +5.6V
---------------------------------------
                                    ./.
```

```
**************************************************************************************************************************
*     WILLI STUDER AG    *     L O C A T I O N     P I N     L I S T            *  86/12/08  *  10:54  *   P A G E  22   *
**************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                 *  86/08/27 - 00                        *
**************************************************************************************************************************
ASY  2         1.861.300.00  CAGE ELECTRONICS                                                  <--  <--  <--  CONTINUATION

GRP  1         1.861.895.00
             <--  <--  <--  CONTINUATION
=======================================

ELM  5         1.861.803.00
   WRITE AMPLIFIER
---------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE        F
---------------------------------------
 1A
 1B
 1C
 2A WRTR1
 2B
 2C WRITR1
 3A WRTR2
 3B
 3C WRITR2
 4A WRTR11
 4B
 4C WRITR11
 5A WRTR12
 5B
 5C WRITR12
 6A WRTR3
 6B
 6C WRTR4
 7A WRTR5
 7B
 7C WRTR6
 8A WRTR7
 8B
 8C WRTR8
 9A WRTR9
 9B
 9C WRTR10
10A
10B
10C
11A
11B
11C
12A
12B
12C
13A
13B
13C
14A -10
14B -10
14C -10
15A +0.0
15B +0.0
15C +0.0
16A +10
16B +10
                                    ./.

GRP  1              1.861.895.00
             <--  <--  <--  CONTINUATION
=======================================

ELM  5              1.861.803.00
             <--  <--  <--  CONTINUATION
---------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE        F
---------------------------------------
16C +10
17A WRSYC
17B
17C WRISYC
18A WRDOUT
18B
18C WRIDOUT
19A WRCLK4
19B
19C WRICLK4
20A BLSYN
20B
20C BLISYN
21A
21B
21C
22A
22B
22C
23A
23B
23C
24A
24B
24C UREC
25A
25B
25C
26A
26B
26C
27A IREC2
27B
27C IREC1
28A IRECD2
28B
28C IRECD1
29A IREC12
29B
29C IREC11
30A SPARE50
30B
30C IMASSA
31A
31B
31C SPARE53
32A +5.6V
                                    ./.

GRP  1         1.861.895.00
             <--  <--  <--  CONTINUATION
=======================================

ELM  5         1.861.803.00
             <--  <--  <--  CONTINUATION
---------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE        F
---------------------------------------
32B +5.6V
32C +5.6V
---------------------------------------
                                    ./.
```

```
************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T                   *  86/12/08  *  10:54  *  P A G E  23  *
************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                    *
************************************************************************************************************************
ASY  2          1.861.300.00  CAGE ELECTRONICS                                                <--  <--  <--  CONTINUATION

GRP  1          1.861.895.00                 GRP  1          1.861.895.00                 GRP  1          1.861.895.00
           <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION
======================================       ======================================       ======================================

ELM  6          1.861.802.00                 ELM  6          1.861.802.00                 ELM  6          1.861.802.00
    TAPE DECK MONITOR                                   <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION
--------------------------------------       --------------------------------------       --------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE        F       PNT SIGNAL NAME  CCLCR LV TYPE        F      PNT SIGNAL NAME  COLOR LV TYPE        F
--------------------------------------       --------------------------------------       --------------------------------------
 1A                                          16C +10                                      32B +5.6V
 1B                                          17A +15.0                                    32C +5.6V
 1C                                          17B +15.0                                    --------------------------------------
 2A                                          17C +15.0                                                                        ./.
 2B                                          18A MCNTR1
 2C                                          18B
 3A                                          18C MCNGND
 3B                                          19A MCNTR2
 3C                                          19B
 4A                                          19C
 4B                                          20A
 4C                                          20B
 5A TDMPRES                                  20C
 5B                                          21A
 5C                                          21B
 6A                                          21C
 6B                                          22A
 6C                                          22B
 7A                                          22C
 7B                                          23A
 7C                                          23B
 8A                                          23C
 8B                                          24A MON1
 8C                                          24B
 9A                                          24C
 9B                                          25A MON3
 9C                                          25B
10A                                          25C MCN2
10B                                          26A MCN5
10C                                          26B
11A                                          26C MCN4
11B                                          27A
11C                                          27B
12A                                          27C
12B                                          28A
12C                                          28B
13A -15.0                                    28C
13B -15.0                                    29A
13C -15.0                                    29B
14A -10                                      29C
14B -10                                      30A
14C -10                                      30B
15A +0.0                                     30C
15B +0.0                                     31A ITDSMUTE
15C +0.0                                     31B
16A +10                                      31C
16B +10                                      32A +5.6V
                                      ./.                                          ./.


************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T                   *  86/12/08  *  10:54  *  P A G E  24  *
************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                    *
************************************************************************************************************************
ASY  2          1.861.300.00  CAGE ELECTRONICS                                                <--  <--  <--  CONTINUATION

GRP  1          1.861.895.00                 GRP  1          1.861.895.00                 GRP  1          1.861.895.00
           <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION
======================================       ======================================       ======================================

ELM  7          1.861.801.00                 ELM  7          1.861.801.00                 ELM  7          1.861.801.00
    PLAYBACK AMPLIFIER                                  <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION
--------------------------------------       --------------------------------------       --------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE        F       PNT SIGNAL NAME  CCLCR LV TYPE        F      PNT SIGNAL NAME  COLOR LV TYPE        F
--------------------------------------       --------------------------------------       --------------------------------------
 1A PBTR3                                    16C +10                                      32B +5.6V
 1B                                          17A +15.0                                    32C +5.6V
 1C PBTR4                                    17B +15.0                                    --------------------------------------
 2A PBTR5                                    17C +15.0
 2B                                          18A PBTR1
 2C PBTR6                                    18B
 3A PBTR7                                    18C PBITR1
 3B                                          19A PBTR2
 3C PBTR8                                    19B
 4A PBTR9                                    19C PBITR2
 4B                                          20A PBTR11
 4C PBTR10                                   20B
 5A                                          20C PBITR11
 5B                                          21A PBTR12
 5C                                          21B
 6A                                          21C PBITR12
 6B                                          22A
 6C                                          22B
 7A                                          22C
 7B                                          23A
 7C                                          23B
 8A                                          23C
 8B                                          24A
 8C                                          24B SPARE51
 9A                                          24C
 9B                                          25A
 9C                                          25B SPARE52
10A                                          25C
10B                                          26A
10C                                          26B C3
11A                                          26C
11B                                          27A
11C                                          27B C2
12A                                          27C
12B                                          28A
12C                                          28B C1
13A -15.0                                    28C
13B -15.0                                    29A
13C -15.0                                    29B C0
14A -10                                      29C
14B -10                                      30A
14C -10                                      30B HISPD
15A +0.0                                     30C
15B +0.0                                     31A
15C +0.0                                     31B TCMOD
16A +10                                      31C
16B +10                                      32A +5.6V
                                      ./.                                          ./.
```

```
************************************************************************************************************************************************
*   WILLI STUDER AG   *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T                        *  86/12/08  *  10:54  *   P A G E  25   *
************************************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                                      *  86/08/27 - 00                           *
************************************************************************************************************************************************
ASY  2         1.861.300.00  CAGE ELECTRONICS                                                                      <--  <--  <--  CONTINUATION

GRP  2         1.861.803.00                            GRP  3         1.861.801.00                            GRP  4         1.861.802.00
   HEADBLOCK CONNECTOR WRITE                              HEADBLOCK CONNECTOR READ                               TAPE DECK MONITOR CONNECTORS
=========================================              =========================================              =========================================

ELM  1         1.861.803.00                            ELM  1         1.861.801.00                            ELM  1         1.861.802.00
   HEADBLOCK WRITE (P4)      (D-SUB 25P)                  HEADBLOCK READ (P4)       (D-SUB 25P)                  INTERNAL SPEAKER CONNECTOR J1 (CIS)
-----------------------------------------              -----------------------------------------              -----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F          PNT SIGNAL NAME  COLOR LV TYPE              F          PNT SIGNAL NAME  COLOR LV TYPE              F
-----------------------------------------              -----------------------------------------              -----------------------------------------
 1  WRTOUT1                                             1  HDTR5                                               1  TDSPE1
 2  IWROUT1                                             2  HDTR9                                               2  TDSPIGND
 3  WRTOUT2                                             3  HDTR7                                               3  TDSPE1
 4  IWROUT2                                             4  HDTR3                                              -----------------------------------------
 5  WRTOUT3                                             5  HDTR4
 6  IWROUT3                                             6  HDTR8                                              ELM  2         1.861.802.00
 7  WRTOUT4                                             7  HDTR10                                                INTERNAL PHONE CONNECTOR J2   (CIS)
 8  IWROUT4                                             8  HDTR6                                              -----------------------------------------
 9  WRTOUT5                                             9  HDTR1                                              PNT SIGNAL NAME  COLOR LV TYPE              F
10  IWROUT5                                            10  HDTR11                                             -----------------------------------------
11  WRTOUT6                                            11  HDTR12                                              1  +0.0
12  IWROUT6                                            12  HDTR2                                               2  PHOCON
13  WRTOUT7                                            13  +10                                                 3
14  IWROUT7                                            14  +10                                                 4  TDPHO1
15  WRTOUT8                                            15  +10                                                 5  TDPHO2
16  IWROUT8                                            16  +10                                                 6  +0.0
17  WRTOUT9                                            17  +10                                                -----------------------------------------
18  IWROUT9                                            18  +0.0
19  WRTOUT10                                           19  +0.0
20  IWROUT10                                           20  +0.0
21                                                     21  +0.0
22                                                     22  -10
23  WRTOUT11                                           23  -10
24  IWROUT11                                           24  -10
25  WRTOUT12                                           25  -10
26  IWROUT12                                           -----------------------------------------
-----------------------------------------
```

```
************************************************************************************************************************************************
*   WILLI STUDER AG   *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T                        *  86/12/08  *  10:54  *   P A G E  26   *
************************************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                                      *  86/08/27 - 00                           *
************************************************************************************************************************************************
ASY  2         1.861.300.00  CAGE ELECTRONICS                                                                      <--  <--  <--  CONTINUATION

GRP  5         71.01.0108                              GRP  6         54.24.0102
   INTERNAL SPEAKER                                       INTERNAL PHONE PLUG
=========================================              =========================================

ELM  1         71.010.108.00                           ELM  1         54.240.102.00
   INTERNAL SPEAKER                (SOLD.)                INTERNAL PHONE PLUG            (SOLD.)
-----------------------------------------              -----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F          PNT SIGNAL NAME  COLOR LV TYPE              F
-----------------------------------------              -----------------------------------------
 1  TDSPE1                                              1  TDPHO1
 2  TDSPIGND                                            2  TDPHO2
-----------------------------------------               3  +0.0
                                                        4
                                                        5
                                                        6  PHOCON
                                                       -----------------------------------------
```

```
************************************************************************************************************************************************
*   WILLI STUDER AG   *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T                        *  86/12/08  *  10:54  *   P A G E  27   *
************************************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                                      *  86/08/27 - 00                           *
************************************************************************************************************************************************
ASY  3         1.861.350.00  PANELS (VERSION D820X-MCD)

GRP  1         1.861.742.00                            GRP  1         1.861.742.00                            GRP  2         1.861.744.00
   DISPLAY PANEL PROCESSOR (DP PROC)                                  <--  <--  <--  CONTINUATION                CHANNEL CONTROL PANEL TRANSCEIVER
=========================================              =========================================              =========================================

ELM  1         1.861.742.00                            ELM  2         1.861.742.00                            ELM  1         1.861.744.00
   CBUS CCP TRANSCEIVER  (D-SUB 25P F)                    DATA DP KEYBOARD     (FLATCABLE 26P)                   BUS REARPANEL TD         (D-SUB 25P M)
-----------------------------------------              -----------------------------------------              -----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F          PNT SIGNAL NAME  COLOR LV TYPE              F          PNT SIGNAL NAME  COLOR LV TYPE              F
-----------------------------------------              -----------------------------------------              -----------------------------------------
 1  DPCBCLK                                             1  DPD0                                                1  DPCBCLK
 2  DPCBAD                                              2  +5.0                                                2  DPCBAD
 3  DPCBDAT                                             3  DPD1                                                3  DPCBDAT
 4                                                      4  +5.0                                                4
 5  +0.0                                                5  DPD2                                                5  +0.0
 6  +0.0                                                6  +5.0                                                6  +0.0
 7  +0.0                                                7  DPD3                                                7  +0.0
 8  +0.0                                                8  +5.0                                                8  +0.0
 9  +0.0                                                9  DPD4                                                9  +0.0
10  +0.0                                               10  +5.0                                               10  +0.0
11  +0.0                                               11  DPD5                                               11  +0.0
12  +0.0                                               12  +5.0                                               12  +0.0
13  +0.0                                               13  DPD6                                               13  +0.0
14  DPCBICLK                                           14  +0.0                                               14  DPCBICLK
15  DPCBIAD                                            15  DPD7                                               15  DPCBIAD
16  DPCBIDAT                                           16  +0.0                                               16  DPCBIDAT
17                                                     17  DPKEYS                                             17
18                                                     18  +0.0                                               18
19  +20PC                                              19  D-WRITE                                            19  +20PC
20  +20PC                                              20  +0.0                                               20  +20PC
21  +20PC                                              21  DPMODE                                             21  +20PC
22  +20PC                                              22  +0.0                                               22  +20PC
23  +20PC                                              23                                                     23  +20PC
24  +20PC                                              24  +0.0                                               24  +20PC
25  +20PC                                              25                                                     25  +20PC
-----------------------------------------              26  +0.0                                               -----------------------------------------
                                       ./.             -----------------------------------------                                                     ./.
```

```
***********************************************************************************************************************************
*     WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T             *  86/12/08  *  10:54  *    P A G E  28   *
***********************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                               *  86/08/27 - 00                                    *
***********************************************************************************************************************************
ASY  3          1.861.350.00  PANELS (VERSION D820X-MCD)                                                <--  <--  <--  CONTINUATION

GRP  2          1.861.744.00                 GRP  2          1.861.744.00                 GRP  3          1.861.746.00
           <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION          MONITOR PANEL AMPLIFIER (MP AMP)
=========================================    =========================================    =========================================

ELM  2          1.861.744.00                 ELM  3          1.861.744.00                 ELM  1          1.861.744.00
    CBUS DP PROCESSOR       (D-SUB 25P F)        DATA CCP KEYBOARD       (FLTCAB. 26P)        CBUS REARPANEL RACK    (D-SUB 25P M)
-----------------------------------------    -----------------------------------------    -----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F    PNT SIGNAL NAME  COLOR LV TYPE          F    PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------    -----------------------------------------    -----------------------------------------
 1  DPCBCLK                                   1                                            1  DPCBCLK
 2  DPCBAD                                    2                                            2  DPCBAD
 3  DPCBDAT                                   3                                            3  DPCBDAT
 4                                            4  SBIT0                                     4  MPSMUTE
 5  +0.0                                      5  SBIT1                                     5  +0.0
 6  +0.0                                      6  SBIT2                                     6  +0.0
 7  +0.0                                      7  SBIT3                                     7  +5.6
 8  +0.0                                      8  SBIT4                                     8  +5.6
 9  +0.0                                      9  SBIT5                                     9  +15.0
10  +0.0                                     10  SBIT6                                    10  +15.0
11  +0.0                                     11  SBIT7                                    11  +15.0
12  +0.0                                     12  SBY2                                     12  MONTR2
13  +0.0                                     13  SBY1                                     13  MONTR1
14  DPCBICLK                                 14  SBY0                                     14  DPCBICLK
15  DPCBIAD                                  15  LBIT0                                    15  DPCBIAD
16  DPCBIDAT                                 16  LBIT1                                    16  DPCBIDAT
17                                           17  LBIT2                                    17  +0.0
18                                           18  LBIT3                                    18  +0.0
19  +20PC                                    19  LBIT4                                    19  +5.6
20  +20PC                                    20  LBIT5                                    19  KMCUE1
21  +20PC                                    21  LBIT6                                    20  +5.6
22  +20PC                                    22  LBIT7                                    21  +5.6
23  +20PC                                    23                                           22  -15.0
24  +20PC                                    24  LBY2                                     23  -15.0
25  +20PC                                    25  LBY1                                     24  -15.0
-----------------------------------------    26  LBY0                                     25  MONGND
                                      ./.    -----------------------------------------    -----------------------------------------

                                             ELM  4          1.861.744.00                 ELM  2          1.861.746.00
                                                 POWER CCP KEYBOARD  (FLATCABEL 10P)          AUDIO SPEAKER RIGHT      (CIS 3P) J3
                                             -----------------------------------------    -----------------------------------------
                                             PNT SIGNAL NAME  COLOR LV TYPE          F    PNT SIGNAL NAME  COLOR LV TYPE          F
                                             -----------------------------------------    -----------------------------------------
                                              1  +0.0                                      1  CODE
                                              2  +5.0                                      2  MPSPR2        0
                                              3  +0.0                                      3  MPSPR1        2
                                              4  +5.0                                     -----------------------------------------
                                              5  +0.0                                                                           ./.
                                              6  +5.0
                                              7  +0.0
                                              8  +5.0
                                              9  +0.0
                                             10  +5.0
                                             -----------------------------------------
```

```
***********************************************************************************************************************************
*     WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T             *  86/12/08  *  10:54  *    P A G E  29   *
***********************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                               *  86/08/27 - 00                                    *
***********************************************************************************************************************************
ASY  3          1.861.350.00  PANELS (VERSION D820X-MCD)                                                <--  <--  <--  CONTINUATION

GRP  3          1.861.746.00                 GRP  3          1.861.746.00                 GRP  4               71.01.0108
           <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION           SPEAKER RIGHT
=========================================    =========================================    =========================================

ELM  3          1.861.746.00                 ELM  6          1.861.746.00                 ELM  1               71.01.0108
    AUDIO SPEAKER LEFT       (CIS 5P) J4         DATA MP KEYBOARD    (FLATCABLE 26P)          SPEAKER RIGHT
-----------------------------------------    -----------------------------------------    -----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F    PNT SIGNAL NAME  COLOR LV TYPE          F    PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------    -----------------------------------------    -----------------------------------------
 1  SWITCH         1                          1  +0.0                                      1  MPSPR1        2
 2  CODE                                      2  BMCAUX                                    2  MPSPR2        0
 3  MPSPL1         2                          3  +0.0                                     -----------------------------------------
 4  MPSPL2         0                          4  BMCUE2
 5  SWITCGND       1                          5
-----------------------------------------     6  BMCMIX
                                              7
ELM  4          1.861.746.00                  8  BMCUE1
    AUDIO PHONES PLUG        (CIS 6P) J2      9
-----------------------------------------    10  BMCCH2
PNT SIGNAL NAME  COLOR LV TYPE          F    11
-----------------------------------------    12  BMCCH1
 1  CODE                                     13
 2  PHOSW          5                         14  BMCTAP
 3  CODE                                     15  MCPRES
 4  PHOL           9                         16  BMCINP
 5  PHOR           2                         17  KMCUE2
 6  PHOGND         4                         18  KINTAP
-----------------------------------------    19  KMCUE1
                                             20  KMCCH1
ELM  5          1.912.001.30                 21
    TO TANDEM POT            (CIS 6P) J1     22  KMCCH2
-----------------------------------------    23  +5.0
PNT SIGNAL NAME  COLOR LV TYPE          F    24
-----------------------------------------    25  +5.0
 1  TANTR2                                   26  KMCTC
 2  TAVAR2                                   -----------------------------------------
 3  MONGND
 4  CODE
 5  TAVAR1
 6  TANTR1
-----------------------------------------
                                      ./.
```

```
********************************************************************************************************************************
*   WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T                * 86/12/08  *  10:54  *   P A G E  30    *
********************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                               *
********************************************************************************************************************************
ASY  3       1.861.350.00  PANELS (VERSION D820X-MCD)                                              <--  <--  <--  CONTINUATION

GRP  5          71.01.0108
    SPEAKER LEFT
=========================================

ELM  1          71.01.0108
    SPEAKER LEFT
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  MPSPL1        2
 2  MPSPL2        0
-----------------------------------------

GRP  6          54.24.0102
    PHONES PLUG
=========================================

ELM  1          54.24.0102
    PHONES PLUG
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 2  PHOSW         5
 4  PHOL          9
 5  PHOR          2
 6  PHOGND        4
-----------------------------------------

GRP  7          1.912.001.30
    TANDEM POTENTIOMETER
=========================================

ELM  1          1.912.001.30
    TANDEM POT SOLD.
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  TANTR1
 2  TAVAR1
 3  MONGND
 4  TAVAR2
 5  TANTR2
 6  MONGND
-----------------------------------------
```

```
********************************************************************************************************************************
*   WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T                * 86/12/08  *  10:54  *   P A G E  31    *
********************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                               *
********************************************************************************************************************************
ASY  3       1.861.350.00  PANELS (VERSION D820X-MCD)                                              <--  <--  <--  CONTINUATION

GRP  8          1.861.745.00
    MONITOR PANEL KEYBOARD(MP KYB)
=========================================

ELM  1          1.861.745.00
    DATA MP AMPLIF (FLATCAB. SOLD. 26P)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  +0.0
 2  BMCAUX
 3  +0.0
 4  BMCUE2
 5
 6  BMCMIX
 7
 8  BMCUE1
 9
10  BMCCH2
11
12  BMCCH1
13
14  BMCTAP
15  MCPRES
16  BMCINP
17  KMCUE2
18  KINTAP
20  KMCCH1
21
22  KMCCH2
23  +5.0
24
25  +5.0
26  KMCTC
-----------------------------------------

GRP  9          1.861.741.00
    DISPLAY PANEL KEYBOARD (DP KYB)
=========================================

ELM  1          1.861.741.00
    DATA DP PROC  (FLATCAB. SOLD. 26P.)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  DPD0
 2  +5.0
 3  DPD1
 4  +5.0
 5  DPD2
 6  +5.0
 7  DPD3
 8  +5.0
 9  DPD4
10  +5.0
11  DPD5
12  +5.0
13  DPD6
14  +0.0
15  DPD7
16  +0.0
17  DPKEYS
18  +0.0
19  D-WRITE
20  +0.0
21  DPMODE
22  +0.0
23
24  +0.0
25
26  +0.0
-----------------------------------------

GRP 10          1.861.743.00
    CHANNEL CONTROL PANEL KEYBOARD
=========================================

ELM  1          1.861.743.00
    DATA CCP TRANSCEIV. (FLATCABLE 26P)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1
 2
 3
 4  SBIT0
 5  SBIT1
 6  SBIT2
 7  SBIT3
 8  SBIT4
 9  SBIT5
10  SBIT6
11  SBIT7
12  SBY2
13  SBY1
14  SBY0
15  LBIT0
16  LBIT1
17  LBIT2
18  LBIT3
19  LBIT4
20  LBIT5
21  LBIT6
22  LBIT7
23
24  LBY2
25  LBY1
26  LBY0
-----------------------------------------

ELM  2          1.861.744.00
    POWER CCP TRANSC. (FLTCAB.SOLD.10P)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  +0.0
 2  +5.0
 3  +0.0
 4  +5.0
 5  +0.0
 6  +5.0
 7  +0.0
 8  +5.0
 9  +0.0
10  +5.0
-----------------------------------------
```

```
**************************************************************************************************************************************************
*    WILLI STUDER AG   *    L  O  C  A  T  I  O  N    P  I  N    L  I  S  T               *  86/12/08  *  10:54  *   P A G E  32       *
**************************************************************************************************************************************************
*                 1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                                 *
**************************************************************************************************************************************************
ASY  4          1.861.320.00  ELECTRONICS BOX

GRP  1          1.861.885.00                       GRP  1          1.861.885.00                       GRP  1          1.861.885.00
    BACKPANEL BOX                                                  <--  <--  <--  CONTINUATION                        <--  <--  <--  CONTINUATION
=============================================      =============================================      =============================================

ELM  1          1.861.751.00                       ELM  1          1.861.751.00                       ELM  1          1.861.751.00
    ANALOG OUTPUT                                                  <--  <--  <--  CONTINUATION                        <--  <--  <--  CONTINUATION
---------------------------------------------      ---------------------------------------------      ---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F      PNT SIGNAL NAME  COLOR LV TYPE              F      PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------      ---------------------------------------------      ---------------------------------------------
 1A +0V-                                           16C                                                32B +0V-
 1B +0V-                                           17A ANAOUT-2                                       32C +0V-
 1C +0V-                                           17B GNDOUT-2                                       ---------------------------------------------
 2A +0V-                                           17C ANAIOUT2                                                                                ./.
 2B +0V-                                           18A
 2C +0V-                                           18B DACOUT2
 3A +0V-                                           18C GNDDAC2
 3B +0V-                                           19A ANA-GND
 3C +0V-                                           19B ANA-GND
 4A                                                19C ANA-GND
 4B                                                20A ANA-GND
 4C                                                20B
 5A +5V-                                           20C
 5B +5V-                                           21A +20
 5C +5V-                                           21B +20
 6A +5V-                                           21C +20
 6B +5V-                                           22A CBUSCLK
 6C +5V-                                           22B CBUSICLK
 7A DABCDA1                                        22C
 7B DAIBCDA1                                       23A CBUSAD
 7C                                                23B CBUSIAD
 8A                                                23C
 8B                                                24A CBUSDAT
 8C                                                24B CBUSIDAT
 9A                                                24C
 9B FLEM                                           25A
 9C                                                25B
10A DA96FS                                         25C
10B DAI96FS                                        26A
10C                                                26B
11A -20                                            26C
11B -20                                            27A +5V-
11C -20                                            27B +5V-
12A                                                27C +5V-
12B DDIDIGMU                                       28A +5V-
12C                                                28B +5V-
13A ANA-GND                                        28C +5V-
13B ANA-GND                                        29A DADAT21
13C ANA-GND                                        29B DAIDAT21
14A GNDDAC1                                        29C
14B DACOUT1                                        30A DADAT11
14C                                                30B DAIDAT11
15A ANAOUT-1                                       30C
15B GNDOUT-1                                       31A DAVAL1A
15C ANAIOUT1                                       31B DAIVAL1A
16A                                                31C
16B                                                32A +0V-
                                          ./.                                                ./.
```

```
**************************************************************************************************************************************************
*    WILLI STUDER AG   *    L  O  C  A  T  I  O  N    P  I  N    L  I  S  T               *  86/12/08  *  10:54  *   P A G E  33       *
**************************************************************************************************************************************************
*                 1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                                 *
**************************************************************************************************************************************************
ASY  4          1.861.320.00  ELECTRONICS BOX                                                                   <--  <--  <--  CONTINUATION

GRP  1          1.861.885.00                       GRP  1          1.861.885.00                       GRP  1          1.861.885.00
             <--  <--  <--  CONTINUATION                        <--  <--  <--  CONTINUATION                        <--  <--  <--  CONTINUATION
=============================================      =============================================      =============================================

ELM  2          1.861.752.00                       ELM  2          1.861.752.00                       ELM  2          1.861.752.00
    ANALOG INPUT                                                   <--  <--  <--  CONTINUATION                        <--  <--  <--  CONTINUATION
---------------------------------------------      ---------------------------------------------      ---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F      PNT SIGNAL NAME  COLOR LV TYPE              F      PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------      ---------------------------------------------      ---------------------------------------------
 1A +0V-                                           16C                                                32B +0V-
 1B +0V-                                           17A ANAIN-2                                        32C +0V-
 1C +0V-                                           17B GNDIN-2                                        ---------------------------------------------
 2A +0V-                                           17C ANAIIN-2                                                                                ./.
 2B +0V-                                           18A
 2C +0V-                                           18B
 3A +0V-                                           18C
 3B +0V-                                           19A ANA-GND
 3C +0V-                                           19B ANA-GND
 4A                                                19C ANA-GND
 4B                                                20A
 4C FLEM                                           20B
 5A +5V-                                           20C
 5B +5V-                                           21A +20
 5C +5V-                                           21B +20
 6A +5V-                                           21C +20
 6B +5V-                                           22A CBUSCLK
 6C +5V-                                           22B CBUSICLK
 7A ADBCLKA                                        22C
 7B                                                23A CBUSAD
 7C ADIBCLKA                                       23B CBUSIAD
 8A ADSTART                                        23C
 8B                                                24A CBUSDAT
 8C ADISTART                                       24B CBUSIDAT
 9A DITHER                                         24C
 9B                                                25A ADCCLIP1
 9C                                                25B
10A                                                25C ADCCLIP2
10B                                                26A
10C                                                26B
11A -20                                            26C
11B -20                                            27A +5V-
11C -20                                            27B +5V-
12A                                                27C +5V-
12B                                                28A +5V-
12C                                                28B +5V-
13A ANA-GND                                        28C +5V-
13B ANA-GND                                        29A ADDAT2
13C ANA-GND                                        29B ADIDAT2
14A                                                29C
14B                                                30A ADDAT1
14C                                                30B ADIDAT1
15A ANAIN-1                                        30C
15B GNDIN-1                                        31A ADVALID
15C ANAIIN-1                                       31B ADIVALID
16A                                                31C
16B                                                32A +0V-
                                          ./.                                                ./.
```

```
**************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T                 * 86/12/08 * 10:54 *  P A G E  34 *
**************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                               * 86/08/27 - 00                  *
**************************************************************************************************************
ASY  4       1.861.320.00  ELECTRONICS BOX                                        <--  <--  <--  CONTINUATION

GRP  1          1.861.885.00
             <--  <--  <--  CONTINUATION
=============================================

ELM  3
    SPARE 1
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F
---------------------------------------------
 1A +0V-
 1B +0V-
 1C +0V-
 2A +0V-
 2B +0V-
 2C +0V-
 3A +0V-
 3B +0V-
 3C +0V-
 4A
 4B
 4C
 5A +5V-
 5B +5V-
 5C +5V-
 6A +5V-
 6B +5V-
 6C +5V-
 7A
 7B
 7C
 8A
 8B
 8C
 9A
 9B
 9C
10A
10B
10C
11A
11B
11C
12A
12B
12C
13A
13B
13C
14A
14B
14C
15A
15B
15C
16A
16B
                                         ./.

GRP  1          1.861.885.00
             <--  <--  <--  CONTINUATION
=============================================

ELM  3
             <--  <--  <--  CONTINUATION
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F
---------------------------------------------
16C
17A
17B
17C
18A CBUSCLK
18B CBUSICLK
18C CBUSAD
19A CBUSIAD
19B CBUSDAT
19C CBUSIDAT
20A
20B
20C
21A
21B
21C
22A
22B
22C
23A
23B
23C
24A
24B
24C
25A
25B
25C
26A
26B
26C
27A +5V-
27B +5V-
27C +5V-
28A +5V-
28B +5V-
28C +5V-
29A
29B
29C
30A +0V-
30B +0V-
30C +0V-
31A +0V-
31B +0V-
31C +0V-
32A +0V-
                                         ./.

GRP  1          1.861.885.00
             <--  <--  <--  CONTINUATION
=============================================

ELM  3
             <--  <--  <--  CONTINUATION
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F
---------------------------------------------
32B +0V-
32C +0V-
---------------------------------------------
                                         ./.
```

```
**************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T                 * 86/12/08 * 10:54 *  P A G E  35 *
**************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                               * 86/08/27 - 00                  *
**************************************************************************************************************
ASY  4       1.861.320.00  ELECTRONICS BOX                                        <--  <--  <--  CONTINUATION

GRP  1          1.861.885.00
             <--  <--  <--  CONTINUATION
=============================================

ELM  4          1.861.853.00
    GAINS CONTROL
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F
---------------------------------------------
 1A +0V-
 1B +0V-
 1C +0V-
 2A +0V-
 2B +0V-
 2C +0V-
 3A +0V-
 3B +0V-
 3C +0V-
 4A DDFADD1
 4B DDFADD0
 4C DDIFVAL
 5A +5V-
 5B +5V-
 5C +5V-
 6A +5V-
 6B +5V-
 6C +5V-
 7A DDBCLK
 7B CHAESB
 7C DDBSYNIN
 8A
 8B DDDATAG1
 8C DDCLKG1
 9A DDLCLK1
 9B
 9C
10A DDGRDY1
10B DDPROA9
10C
11A DDPROA0
11B DDPROA1
11C DDPROA2
12A DDPROA3
12B DDPROA4
12C DDPROA5
13A DDPROA6
13B DDPROA7
13C DDPROA8
14A DDCHPRO
14B
14C AESIIN
15A DDATAAES
15B DDCK2AES
15C DDCHSTAT
16A
16B AESIN
                                         ./.

GRP  1          1.861.885.00
             <--  <--  <--  CONTINUATION
=============================================

ELM  4          1.861.853.00
             <--  <--  <--  CONTINUATION
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F
---------------------------------------------
16C DDC3
17A DDLCLK10
17B DDLCLK11
17C DDHPOFF
18A CBUSCLK
18B CBUSICLK
18C CBUSAD
19A CBUSIAD
19B CBUSDAT
19C CBUSIDAT
20A DCIDIGMU
20B SPARE55
20C
21A DDMUTE
21B SPLINIT
21C RES3
22A -20
22B
22C SECSYN
23A ICARRY
23B BSYNCOUT
23C +20
24A RES4
24B RES5
24C ADCCLIP1
25A CLK4
25B ADCCLIP2
25C RES8
26A RES9
26B RES10
26C RES11
27A +5V-
27B +5V-
27C +5V-
28A +5V-
28B +5V-
28C +5V-
29A FLEM
29B RES12
29C DCINIT
30A +0V-
30B +0V-
30C +0V-
31A +0V-
31B +0V-
31C +0V-
32A +0V-
                                         ./.

GRP  1          1.861.885.00
             <--  <--  <--  CONTINUATION
=============================================

ELM  4          1.861.853.00
             <--  <--  <--  CONTINUATION
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F
---------------------------------------------
32B +0V-
32C +0V-
---------------------------------------------
                                         ./.
```

```
***********************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N     P I N     L I S T                 *  86/12/08  *  10:54  *   P A G E  36   *
***********************************************************************************************************************
*              1.861.022.00  D820X PCM RECCRDER                                    *  86/08/27 - 00                        *
***********************************************************************************************************************
ASY  4         1.861.320.00  ELECTRONICS BOX                                                    <--  <--  <--  CONTINUATION

GRP  1         1.861.885.00                  GRP  1         1.861.885.00                  GRP  1         1.861.885.00
             <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION
=========================================    =========================================    =========================================

ELM  5         1.861.854.00                  ELM  5         1.861.854.00                  ELM  5         1.861.854.00
   DAPRO INTERFACE                                        <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION
-----------------------------------------    -----------------------------------------    -----------------------------------------
PNT SIGNAL NAME  CCLOR LV TYPE          F    PNT SIGNAL NAME  CCLCR LV TYPE          F    PNT SIGNAL NAME  CCLOR LV TYPF          F
-----------------------------------------    -----------------------------------------    -----------------------------------------
 1A +0V-                                     16C ADIDAT1                                  32B +0V-
 1B +0V-                                     17A ADDAT2                                   32C +0V-
 1C +0V-                                     17B ADIDAT2                                  -----------------------------------------
 2A +0V-                                     17C AESIN                                                                          ./.
 2B +0V-                                     18A DDLCLK10
 2C +0V-                                     18B DDLCLK11
 3A +0V-                                     18C PULLUP11
 3B +0V-                                     19A
 3C +0V-                                     19B
 4A                                          19C DCIDAVAL
 4B                                          20A SPLINIT
 4C DDCHPRO                                  20B PDDATA
 5A +5V-                                     20C PCIDATA
 5B +5V-                                     21A PCWCLK
 5C +5V-                                     21B PCIWCLK
 6A +5V-                                     21C PCBCLK
 6B +5V-                                     22A PCIBCLK
 6C +5V-                                     22B DCENCDAP
 7A DDFADD1                                  22C
 7B DDFADD0                                  23A ICARRY
 7C DDIFVAL                                  23B BSYNCOUT
 8A DDBCLK                                   23C AESO1
 8B CHAESB                                   24A AESIC1
 8C DDBSYNIN                                 24B AESIN
 9A DDATAAES                                 24C AESIIN
 9B DDCK2AES                                 25A CLK4
 9C DDCHSTAT                                 25B CLK5
10A DA96FS                                   25C 2ECCLK
10B DAI96FS                                  26A I2ECCLK
10C DDISTART                                 26B
11A DAVAL1A                                  26C
11B DAIVAL1A                                 27A +5V-
11C DABCDA1                                  27B +5V-
12A DAIBCDA1                                 27C +5V-
12B DADAT11                                  28A +5V-
12C DAIDAT11                                 28B +5V-
13A DADAT21                                  28C +5V-
13B DAIDAT21                                 29A
13C AESIIN                                   29B
14A DDCHPRO                                  29C PULLUP12
14B ADVALID                                  30A +0V-
14C ADIVALID                                 30B +0V-
15A ADBCLKA                                  30C +0V-
15B ADIBCLKA                                 31A +0V-
15C ADSTART                                  31B +0V-
16A ADISTART                                 31C +0V-
16B ADDAT1                                   32A +0V-
                                    ./.                                          ./.
```

```
***********************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N     P I N     L I S T                 *  86/12/08  *  10:54  *   P A G E  37   *
***********************************************************************************************************************
*              1.861.022.00  D820X PCM RECCRDER                                    *  86/08/27 - 00                        *
***********************************************************************************************************************
ASY  4         1.861.320.00  ELECTRONICS BOX                                                    <--  <--  <--  CONTINUATION

GRP  1         1.861.885.00                  GRP  1         1.861.885.00                  GRP  1         1.861.885.00
             <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION
=========================================    =========================================    =========================================

ELM  6         1.861.855.00                  ELM  6         1.861.855.00                  ELM  6         1.861.855.00
   DATA PROCESSOR                                         <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION
-----------------------------------------    -----------------------------------------    -----------------------------------------
PNT SIGNAL NAME  CCLOR LV TYPE          F    PNT SIGNAL NAME  COLCR LV TYPE          F    PNT SIGNAL NAME  COLOR LV TYPF          F
-----------------------------------------    -----------------------------------------    -----------------------------------------
 1A +0V-                                     16C DDC3                                     32B +0V-
 1B +0V-                                     17A                                          32C +0V-
 1C +0V-                                     17B                                          -----------------------------------------
 2A +0V-                                     17C DDHPOFF                                                                        ./.
 2B +0V-                                     18A DDLCLK10
 2C +0V-                                     18B DDLCLK11
 3A +0V-                                     18C
 3B +0V-                                     19A
 3C +0V-                                     19B
 4A RES15                                    19C
 4B RES16                                    20A SPLINIT
 4C RES17                                    20B SPARE55
 5A +5V-                                     20C
 5B +5V-                                     21A DDMUTE
 5C +5V-                                     21B
 6A +5V-                                     21C RES3
 6B +5V-                                     22A ADCCLIP1
 6C +5V-                                     22B RES4
 7A RES18                                    22C ADCCLIP2
 7B RES19                                    23A DCINVAL
 7C RES20                                    23B DCFMUT
 8A RES21                                    23C DCFSPL
 8B                                          24A RES5
 8C                                          24B ADCCLIP1
 9A                                          24C ADCCLIP2
 9B                                          25A CLK4
 9C DD3HEAD                                  25B
10A                                          25C
10B DDPROA9                                  26A
10C DDISTART                                 26B
11A DDPROA0                                  26C
11B DDPROA1                                  27A +5V-
11C DDPROA2                                  27B +5V-
12A DDPROA3                                  27C +5V-
12B DDPROA4                                  28A +5V-
12C DDPROA5                                  28B +5V-
13A DDPROA6                                  28C +5V-
13B DDPROA7                                  29A DCINIT
13C DDPROA8                                  29B
14A DDCHPRO                                  29C
14B DDFGAI                                   30A +0V-
14C DDB1D14                                  30B +0V-
15A DDB2D13                                  30C +0V-
15B DDB2D14                                  31A +0V-
15C DDB2D15                                  31B +0V-
16A DDMIEN1                                  31C +0V-
16B DDCLRO                                   32A +0V-
                                    ./.                                          ./.
```

```
*********************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N     P I N     L I S T                *  86/12/08  *  10:54  *   P A G E  38   *
*********************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                  *
*********************************************************************************************************************
ASY  4        1.861.320.00  ELECTRONICS BOX                                                <--  <--  <--  CONTINUATION

GRP  1        1.861.885.00                GRP  1        1.861.885.00                GRP  1        1.861.885.00
          <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
========================================  ========================================  ========================================

ELM  7        1.861.856.00                ELM  7        1.861.856.00                ELM  7        1.861.856.00
   COEFFICIENT GENERATOR                            <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
----------------------------------------  ----------------------------------------  ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F  PNT SIGNAL NAME  COLOR LV TYPE         F  PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------  ----------------------------------------  ----------------------------------------
 1A +0V-                                  16C                                       32B +0V-
 1B +0V-                                  17A                                       32C +0V-
 1C +0V-                                  17B                                       ----------------------------------------
 2A +0V-                                  17C                                                                            ./.
 2B +0V-                                  18A
 2C +0V-                                  18B
 3A +0V-                                  18C
 3B +0V-                                  19A DCD1CLK
 3C +0V-                                  19B DCD2CLK
 4A RES15                                 19C
 4B RES16                                 20A
 4C RES17                                 20B
 5A +5V-                                  20C
 5B +5V-                                  21A
 5C +5V-                                  21B
 6A +5V-                                  21C
 6B +5V-                                  22A
 6C +5V-                                  22B
 7A RES18                                 22C DCDAPDEC
 7B RES19                                 23A
 7C RES20                                 23B
 8A RES21                                 23C RES22
 8B DDDATAG1                              24A
 8C DDCLKG1                               24B
 9A DDLCLK1                               24C
 9B                                       25A CLK4
 9C DD3HEAC                               25B CLK5
10A DDGRDY1                               25C
10B DDPROA9                               26A
10C PULLUP9                               26B
11A DDPROA0                               26C
11B DDPROA1                               27A +5V-
11C DDPROA2                               27B +5V-
12A DDPROA3                               27C +5V-
12B DDPROA4                               28A +5V-
12C DDPROA5                               28B +5V-
13A DDPROA6                               28C +5V-
13B DDPROA7                               29A
13C DDPROA8                               29B
14A DDCHPRO                               29C
14B DDFGAI                                30A +0V-
14C DDB1D14                               30B +0V-
15A DDB2D13                               30C +0V-
15B DDB2D14                               31A +0V-
15C DDB2D15                               31B +0V-
16A DDMIEN1                               31C +0V-
16B DDCLRC                                32A +0V-
                                     ./.                                       ./.
```

```
*********************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N     P I N     L I S T                *  86/12/08  *  10:54  *   P A G E  39   *
*********************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                  *
*********************************************************************************************************************
ASY  4        1.861.320.00  ELECTRONICS BOX                                                <--  <--  <--  CONTINUATION

GRP  1        1.861.885.00                GRP  1        1.861.885.00                GRP  1        1.861.885.00
          <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
========================================  ========================================  ========================================

ELM  8        1.861.857.00                ELM  8        1.861.857.00                ELM  8        1.861.857.00
   CODEC CONTROL                                    <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
----------------------------------------  ----------------------------------------  ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F  PNT SIGNAL NAME  COLOR LV TYPE         F  PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------  ----------------------------------------  ----------------------------------------
 1A +0V-                                  16C CCCRC                                 32B +0V-
 1B +0V-                                  17A DCD1CLK                               32C +0V-
 1C +0V-                                  17B DCD2CLK                               ----------------------------------------
 2A +0V-                                  17C DCINIT                                                                     ./.
 2B +0V-                                  18A CBUSCLK
 2C +0V-                                  18B CBUSICLK
 3A +0V-                                  18C CBUSAD
 3B +0V-                                  19A CBUSIAD
 3C +0V-                                  19B CBUSDAT
 4A CCAL0                                 19C CBUSIDAT
 4B CCAL1                                 20A CCREPRO
 4C CCAL2                                 20B CCADDRDE
 5A +5V-                                  20C CCENCIN
 5B +5V-                                  21A CCFBCLR
 5C +5V-                                  21B CLK5
 6A +5V-                                  21C CCWDERR
 6B +5V-                                  22A CCK5
 6C +5V-                                  22B TCY-4
 7A CCAL3                                 22C ISPLDET
 7B CCAL4                                 23A CCIDIS
 7C CCAL5                                 23B DCFMLT
 8A CCAL6                                 23C DCFSPL
 8B CCAL7                                 24A CCIGMASK
 8C CCIR5                                 24B CCIPRSPL
 9A CCAH1                                 24C TCRCERR
 9B CCAH2                                 25A CLK6
 9C CCAH3                                 25B CLK7
10A CCAH4                                 25C CLK8
10B CCAH5                                 26A CLK9
10C CCAH6                                 26B CCRDERR
11A CCAH7                                 26C CCWRERR
11B CCADEC                                27A +5V-
11C CCPR-1                                27B +5V-
12A CC0                                   27C +5V-
12B CC1                                   28A +5V-
12C CC2                                   28B +5V-
13A CC3                                   28C +5V-
13B CC4                                   29A CCEEC
13C CC5                                   29B CCEE1
14A CC6                                   29C CCBLCRC
14B CC7                                   30A +0V-
14C CCE1                                  30B +0V-
15A CCE0                                  30C +0V-
15B CCECD                                 31A +0V-
15C CCILV                                 31B +0V-
16A CCQECD                                31C +0V-
16B CCQECDM                               32A +0V-
                                     ./.                                       ./.
```

```
****************************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T                            *  86/12/08  *  10:54  *   P A G E  40     *
****************************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                             *  86/08/27 - 00                           *
****************************************************************************************************************************************
ASY  4         1.861.320.00  ELECTRONICS BOX                                                                <--  <--  <--   CONTINUATION

GRP  1         1.861.885.00                   GRP  1         1.861.885.00                   GRP  1         1.861.885.00
                <--  <--  <--   CONTINUATION                  <--  <--  <--   CONTINUATION                  <--  <--  <--   CONTINUATION
============================================  ============================================  ============================================

ELM  9         1.861.858.00                   ELM  9         1.861.858.00                   ELM  9         1.861.858.00
   CODEC MEMORY                                               <--  <--  <--   CONTINUATION                  <--  <--  <--   CONTINUATION
--------------------------------------------  --------------------------------------------  --------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F  PNT SIGNAL NAME  COLOR LV TYPE             F  PNT SIGNAL NAME  COLOR LV TYPE             F
--------------------------------------------  --------------------------------------------  --------------------------------------------
 1A +0V-                                      16C CCCRC                                     32B +0V-
 1B +0V-                                      17A ISPLDET                                   32C +0V-
 1C +0V-                                      17B CCIGMASK                                  --------------------------------------------
 2A +0V-                                      17C DCICAVAL                                                                           ./.
 2B +0V-                                      18A
 2C +0V-                                      18B
 3A +0V-                                      18C
 3B +0V-                                      19A
 3C +0V-                                      19B
 4A CCAL0                                     19C
 4B CCAL1                                     20A CCREPRO
 4C CCAL2                                     20B CCADORDE
 5A +5V-                                      20C CCENCIN
 5B +5V-                                      21A CCFBCLR
 5C +5V-                                      21B
 6A +5V-                                      21C CCWDERR
 6B +5V-                                      22A CCK5
 6C +5V-                                      22B DCENCDAP
 7A CCAL3                                     22C DCDAPDEC
 7B CCAL4                                     23A DCINVAL
 7C CCAL5                                     23B CCIDIS
 8A CCAL6                                     23C RES22
 8B CCAL7                                     24A TFORMENC
 8C CCIR5                                     24B TDECCASY
 9A CCAH1                                     24C CCIPRSPL
 9B CCAH2                                     25A CLK6
 9C CCAH3                                     25B CLK7
10A CCAH4                                     25C CLK8
10B CCAH5                                     26A CLK9
10C CCAH6                                     26B CCRDERR
11A CCAH7                                     26C CCWRERR
11B CCADEC                                    27A +5V-
11C CCPR-1                                    27B +5V-
12A CC0                                       27C +5V-
12B CC1                                       28A +5V-
12C CC2                                       28B +5V-
13A CC3                                       28C +5V-
13B CC4                                       29A CCEE0
13C CC5                                       29B CCEE1
14A CC6                                       29C CCBLCRC
14B CC7                                       30A +0V-
14C CCE1                                      30B +0V-
15A CCE0                                      30C +0V-
15B CCECD                                     31A +0V-
15C CCILV                                     31B +0V-
16A CCQECD                                    31C +0V-
16B CCQECDM                                   32A +0V-
                                         ./.                                           ./.


****************************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T                            *  86/12/08  *  10:54  *   P A G E  41     *
****************************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                             *  86/08/27 - 00                           *
****************************************************************************************************************************************
ASY  4         1.861.320.00  ELECTRONICS BOX                                                                <--  <--  <--   CONTINUATION

GRP  1         1.861.885.00                   GRP  1         1.861.885.00                   GRP  1         1.861.885.00
                <--  <--  <--   CONTINUATION                  <--  <--  <--   CONTINUATION                  <--  <--  <--   CONTINUATION
============================================  ============================================  ============================================

ELM 10         1.861.859.00                   ELM 10         1.861.859.00                   ELM 10         1.861.859.00
   TRANSFORMATTER                                             <--  <--  <--   CONTINUATION                  <--  <--  <--   CONTINUATION
--------------------------------------------  --------------------------------------------  --------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE             F  PNT SIGNAL NAME  COLOR LV TYPE             F  PNT SIGNAL NAME  COLOR LV TYPE             F
--------------------------------------------  --------------------------------------------  --------------------------------------------
 1A +0V-                                      16C FBIWS                                     32B +0V-
 1B +0V-                                      17A ADT0                                      32C +0V-
 1C +0V-                                      17B                                           --------------------------------------------
 2A +0V-                                      17C ADT1                                                                               ./.
 2B +0V-                                      18A ADT2
 2C +0V-                                      18B
 3A +0V-                                      18C ADT3
 3B +0V-                                      19A HI/LO
 3C +0V-                                      19B SECSYN
 4A ITEST                                     19C
 4B IERRL                                     20A DINT
 4C                                           20B ISYNC
 5A +5V-                                      20C IWRET
 5B +5V-                                      21A TFORMENC
 5C +5V-                                      21B TDECCASY
 6A +5V-                                      21C TCRCERR
 6B +5V-                                      22A
 6C +5V-                                      22B TCY-4
 7A WRCLK4                                    22C ISPLDET
 7B WRICLK4                                   23A
 7C SLR                                       23B
 8A WRDOUT                                    23C
 8B WRIDOUT                                   24A
 8C RTSYNC                                    24B
 9A WRSY0                                     24C
 9B WRISY0                                    25A CLK1
 9C ISYRT                                     25B CLK4
10A TREFINT                                   25C CLK5
10B TIREFINT                                  26A CLK6
10C DSSY                                      26B ICLK5
11A                                           26C ICLK6
11B                                           27A +5V-
11C RESHPG1                                   27B +5V-
12A RESHPG2                                   27C +5V-
12B TTWREMPH                                  28A +5V-
12C TTRDEMPH                                  28B +5V-
13A TTIXLOOP                                  28C +5V-
13B TTREC                                     29A BLSYN
13C SECSYN                                    29B
14A W0                                        29C BLISYN
14B W1                                        30A +0V-
14C F1                                        30B +0V-
15A F2                                        30C +0V-
15B F3                                        31A +0V-
15C ITRAR                                     31B +0V-
16A FBWS                                      31C +0V-
16B                                           32A +0V-
                                         ./.                                           ./.
```

```
*****************************************************************************************************************
*    WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T              *  86/12/08  *  10:54  *   P A G E  42   *
*****************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                               *  86/08/27 - 00                     *
*****************************************************************************************************************
ASY  4        1.861.320.00  ELECTRONICS BOX                                                <--  <--  <--  CONTINUATION
```

```
GRP  1        1.861.885.00
            <--  <--  <--  CONTINUATION
=========================================

ELM 11        1.861.860.00
   RUN PROCESSOR
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1A +0V-
 1B +0V-
 1C +0V-
 2A +0V-
 2B +0V-
 2C +0V-
 3A +0V-
 3B +0V-
 3C +0V-
 4A
 4B
 4C
 5A +5V-
 5B +5V-
 5C +5V-
 6A +5V-
 6B +5V-
 6C +5V-
 7A DTR1
 7B DTRI1
 7C
 8A DTR2
 8B DTRI2
 8C
 9A DTR3
 9B DTRI3
 9C
10A DTR4
10B DTRI4
10C
11A DTR5
11B DTRI5
11C
12A DTR6
12B DTRI6
12C
13A DTR7
13B DTRI7
13C
14A DTR8
14B DTRI8
14C
15A
15B
15C
16A
16B
                                      ./.
```

```
GRP  1        1.861.885.00
            <--  <--  <--  CONTINUATION
=========================================

ELM 11        1.861.860.00
            <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
16C
17A ACT0
17B
17C ACT1
18A ADT2
18B
18C
19A
19B RPTREND
19C LCTREND
20A DINT
20B ISYNC
20C IWRET
21A
21B
21C
22A
22B
22C SYSCFS1
23A SYSCFS2
23B MVARI
23C TAPETYPE
24A CLK1
24B
24C
25A CLK6
25B
25C
26A
26B
26C
27A +5V-
27B +5V-
27C +5V-
28A +5V-
28B +5V-
28C +5V-
29A
29B
29C
30A +0V-
30B +0V-
30C +0V-
31A +0V-
31B +0V-
31C +0V-
32A +0V-
                                      ./.
```

```
GRP  1        1.861.885.00
            <--  <--  <--  CONTINUATION
=========================================

ELM 11        1.861.860.00
            <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
32B +0V-
32C +0V-
-----------------------------------------
                                      ./.
```

```
*****************************************************************************************************************
*    WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T              *  86/12/08  *  10:54  *   P A G E  43   *
*****************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                               *  86/08/27 - 00                     *
*****************************************************************************************************************
ASY  4        1.861.320.00  ELECTRONICS BOX                                                <--  <--  <--  CONTINUATION
```

```
GRP  1        1.861.885.00
            <--  <--  <--  CONTINUATION
=========================================

ELM 12        1.861.861.00
   RT/TC CODEC
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1A +0V-
 1B +0V-
 1C +0V-
 2A +0V-
 2B +0V-
 2C +0V-
 3A +0V-
 3B +0V-
 3C +0V-
 4A
 4B
 4C
 5A +5V-
 5B +5V-
 5C +5V-
 6A +5V-
 6B +5V-
 6C +5V-
 7A TTIXLOOP
 7B
 7C
 8A PBTR2
 8B PBITR2
 8C RTSYNC
 9A WRTR2
 9B WRITR2
 9C ISYRT
10A PBTR1
10B PBITR1
10C DSSY
11A WRTR1
11B WRITR1
11C RESHPG1
12A RESHPG2
12B CLK5
12C TEST1
13A
13B
13C
14A -20
14B -20
14C -20
15A ANA-GND
15B ANA-GND
15C ANA-GND
16A TCIN
16B TCIIN
                                      ./.
```

```
GRP  1        1.861.885.00
            <--  <--  <--  CONTINUATION
=========================================

ELM 12        1.861.861.00
            <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
16C
17A TCOUT
17B TCIOUT
17C
18A CBUSCLK
18B CBUSICLK
18C CBUSAD
19A CBUSIAD
19B CBUSDAT
19C CBUSIDAT
20A +20
20B +20
20C +20
21A
21B
21C
22A RTOUT
22B RTIOUT
22C SYSCFS1
23A SYSCFS2
23B MVARI
23C TAPETYPE
24A
24B
24C SLR
25A
25B
25C
26A
26B
26C ICLK6
27A +5V-
27B +5V-
27C +5V-
28A +5V-
28B +5V-
28C +5V-
29A
29B
29C
30A +0V-
30B +0V-
30C +0V-
31A +0V-
31B +0V-
31C +0V-
32A +0V-
                                      ./.
```

```
GRP  1        1.861.885.00
            <--  <--  <--  CONTINUATION
=========================================

ELM 12        1.861.861.00
            <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
32B +0V-
32C +0V-
-----------------------------------------
                                      ./.
```

```
************************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T                    * 86/12/08 * 10:54 *  P A G E  44  *
************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                        *
************************************************************************************************************************
ASY  4        1.861.320.00  ELECTRONICS BOX                                                   <--  <--  <--  CONTINUATION

GRP  1        1.861.885.00
         <--  <--  <--  CONTINUATION
=========================================

ELM 13        1.861.862.00
   TIMING + TEST
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1A +0V-
 1B +0V-
 1C +0V-
 2A +0V-
 2B +0V-
 2C +0V-
 3A +0V-
 3B +0V-
 3C +0V-
 4A SAMPCLK
 4B SAMPICLK
 4C DDCHPRO
 5A +5V-
 5B +5V-
 5C +5V-
 6A +5V-
 6B +5V-
 6C +5V-
 7A VCLKIN
 7B GNDCKI
 7C WDCKI
 8A SY/WDCKO
 8B GNDCKO
 8C
 9A VIDCLK
 9B VIDICLK
 9C RTSYNC
10A WDIN
10B WDIIN
10C
11A -20
11B -20
11C -20
12A
12B TTWREMPH
12C TTRDEMPH
13A TTIXLOOP
13B TTREC
13C TRI1
14A SYWDOUT
14B SYWDIOUT
14C
15A AESIN
15B AESIIN
15C
16A TREFEXT
16B TIREFEXT
                                      ./.

GRP  1        1.861.885.00
         <--  <--  <--  CONTINUATION
=========================================

ELM 13        1.861.862.00
         <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
16C
17A 2ECCLK
17B I2ECCLK
17C
18A CBUSCLK
18B CBUSICLK
18C CBUSAD
19A CBUSIAD
19B CBUSDAT
19C CBUSIDAT
20A HI/LC
20B SECSYN
20C
21A +20
21B +20
21C +20
22A PDCLK3
22B PDICLK3
22C
23A ITE2
23B
23C
24A CLK1
24B CLK4
24C CLK5
25A CLK6
25B CLK7
25C CLK8
26A CLK9
26B ICLK5
26C ICLK6
27A +5V-
27B +5V-
27C +5V-
28A +5V-
28B +5V-
28C +5V-
29A
29B
29C
30A +0V-
30B +0V-
30C +0V-
31A +0V-
31B +0V-
31C +0V-
32A +0V-
                                      ./.

GRP  1        1.861.885.00
         <--  <--  <--  CONTINUATION
=========================================

ELM 13        1.861.862.00
         <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
32B +0V-
32C +0V-
-----------------------------------------
                                      ./.
```

```
************************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T                    * 86/12/08 * 10:54 *  P A G E  45  *
************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                        *
************************************************************************************************************************
ASY  4        1.861.320.00  ELECTRONICS BOX                                                   <--  <--  <--  CONTINUATION

GRP  1        1.861.885.00
         <--  <--  <--  CONTINUATION
=========================================

ELM 14        1.861.763.00
   SYSTEM CONTROLLER 1
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1A +0V-
 1B +0V-
 1C +0V-
 2A +0V-
 2B +0V-
 2C +0V-
 3A +0V-
 3B +0V-
 3C +0V-
 4A TSTSIFTD
 4B TSTSIFRD
 4C
 5A +5V-
 5B +5V-
 5C +5V-
 6A +5V-
 6B +5V-
 6C +5V-
 7A SSDACLK
 7B SSDAICLK
 7C
 8A SSDAMTX
 8B SSDAIMTX
 8C
 9A SSDACTS
 9B SSDAICTS
 9C
10A SSDADTR
10B SSDAIDTR
10C
11A SSDAMRX
11B SSDAIMRX
11C
12A P-DATA0
12B P-DATA1
12C P-DATA2
13A P-DATA3
13B P-DATA4
13C P-DATA5
14A P-DATA6
14B P-DATA7
14C
15A P-EN
15B P-RW
15C P-IRES
16A P-INMI
16B PWRUK
                                      ./.

GRP  1        1.861.885.00
         <--  <--  <--  CONTINUATION
=========================================

ELM 14        1.861.763.00
         <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
16C P-IN2
17A P-OUT1
17B P-OUT2
17C
18A CBUSCLK
18B CBUSICLK
18C CBUSAD
19A CBUSIAD
19B CBUSDAT
19C CBUSIDAT
20A P-ADDR00
20B P-ADDR01
20C P-ADDR02
21A P-ADDR03
21B P-ADDR04
21C P-ADDR05
22A P-ADDR06
22B P-ADDR07
22C P-ADDR08
23A P-ADDR09
23B P-ADDR10
23C P-ADDR11
24A P-ISEL0
24B P-ISEL1
24C P-ISEL2
25A P-ISEL3
25B K-PWRUP
25C
26A +20
26B +20PC
26C
27A +5V-
27B +5V-
27C +5V-
28A +5V-
28B +5V-
28C +5V-
29A -20
29B
29C
30A +0V-
30B +0V-
30C +0V-
31A +0V-
31B +0V-
31C +0V-
32A +0V-
                                      ./.

GRP  1        1.861.885.00
         <--  <--  <--  CONTINUATION
=========================================

ELM 14        1.861.763.00
         <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
32B +0V-
32C +0V-
-----------------------------------------
                                      ./.
```

```
****************************************************************************************************
*    WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T          *  86/12/08  *  10:54  *    P A G E  46   *
****************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                          *  86/08/27 - 00                    *
****************************************************************************************************
ASY  4         1.861.320.00  ELECTRONICS BOX                                    <--  <--  <--  CONTINUATION
```

```
GRP  1         1.861.885.00
               <--  <--  <--  CONTINUATION
=========================================

ELM 15         1.861.763.00
    SYSTEM CONTROLLER 2
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1A +0V-
 1B +0V-
 1C +0V-
 2A +0V-
 2B +0V-
 2C +0V-
 3A +0V-
 3B +0V-
 3C +0V-
 4A TSTSIFTD
 4B TSTSIFRD
 4C
 5A +5V-
 5B +5V-
 5C +5V-
 6A +5V-
 6B +5V-
 6C +5V-
 7A SSDACLK
 7B SSDAICLK
 7C
 8A SSDAMTX
 8B SSDAIMTX
 8C
 9A SSDACTS
 9B SSDAICTS
 9C
10A SSDADTR
10B SSDAIDTR
10C
11A SSDAMRX
11B SSDAIMRX
11C
12A P-DATA02
12B P-DATA12
12C P-DATA22
13A P-DATA32
13B P-DATA42
13C P-DATA52
14A P-DATA62
14B P-DATA72
14C
15A P-EN2
15B P-RW2
15C P-IRES2
16A P-INMI2
16B PWRUK
                                      ./.
```

```
GRP  1         1.861.885.00
               <--  <--  <--  CONTINUATION
=========================================

ELM 15         1.861.763.00
               <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
16C P-IN2
17A P-OUT12
17B P-OUT22
17C
18A CBUSCLK
18B CBUSICLK
18C CBUSAD
19A CBUSIAD
19B CBUSCAT
19C CBUSICAT
20A P-ADDR20
20B P-ADDR21
20C P-ADDR22
21A P-ADDR23
21B P-ADDR24
21C P-ADDR25
22A P-ADDR26
22B P-ADDR27
22C P-ADDR28
23A P-ADDR29
23B P-ADDR30
23C P-ADDR31
24A P-ISEL02
24B P-ISEL12
24C P-ISEL22
25A P-ISEL32
25B K-PWRUP
25C
26A +20
26B +20PC
26C
27A +5V-
27B +5V-
27C +5V-
28A +5V-
28B +5V-
28C +5V-
29A -20
29B
29C
30A +0V-
30B +0V-
30C +0V-
31A +0V-
31B +0V-
31C +0V-
32A +0V-
                                      ./.
```

```
GRP  1         1.861.885.00
               <--  <--  <--  CONTINUATION
=========================================

ELM 15         1.861.763.00
               <--  <--  <--  CONTINUATION
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
32B +0V-
32C +0V-
-----------------------------------------

ELM 16         1.861.775.00
    CONNECTOR 1                (ANALOG I/O)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
  1  ANA-GND
  2  GNDOUT-2
  3  ANA-GND
  4  GNDOUT-1
  5  ANA-GND
  6
  7  ANA-GND
  8
  9  ANA-GND
 10  GNDIN-2
 11  ANA-GND
 12  GNDIN-1
 13  ANA-GND
 14  ANAOUT-2
 15  ANAIOUT2
 16  ANAOUT-1
 17  ANAIOUT1
 18
 19
 20
 21
 22  ANAIN-2
 23  ANAIIN-2
 24  ANAIN-1
 25  ANAIIN-1
-----------------------------------------
                                      ./.
```

```
****************************************************************************************************
*    WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T          *  86/12/08  *  10:54  *    P A G E  47   *
****************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                          *  86/08/27 - 00                    *
****************************************************************************************************
ASY  4         1.861.320.00  ELECTRONICS BOX                                    <--  <--  <--  CONTINUATION
```

```
GRP  1         1.861.885.00
               <--  <--  <--  CONTINUATION
=========================================

ELM 17
    CONNECTOR 2        (BACKPANEL RACK 1)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
  1  DACOUT1
  2  DACOUT2
  3  PDIBCLK
  4  PDIWCLK
  5  PDIDATA
  6  TIREFINT
  7  TIREFEXT
  8  WRITR1
  9  WRITR2
 10  PBITR1
 11  PBITR2
 12  PDICLK3
 13  PDCLK3
 14  GNDDAC1
 15  GNDDAC2
 16  PDBCLK
 17  PDWCLK
 18  PDDATA
 19  TREFINT
 20  TREFEXT
 21  WRTR1
 22  WRTR2
 23  PBTR1
 24  PBTR2
 25  K-PWRUP
-----------------------------------------
                                      ./.
```

```
GRP  1         1.861.885.00
               <--  <--  <--  CONTINUATION
=========================================

ELM 18
    CONNECTOR 3        (BACKPANEL RACK 3)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
  1  BLISYN
  2  WRICLK4
  3  WRIDOUT
  4  WRISYO
  5  DTRI8
  6  DTRI7
  7  DTRI6
  8  DTRI5
  9  DTRI4
 10  DTRI3
 11  DTRI2
 12  DTRI1
 13
 14  BLSYN
 15  WRCLK4
 16  WRDOUT
 17  WRSYO
 18  DTR8
 19  DTR7
 20  DTR6
 21  DTR5
 22  DTR4
 23  DTR3
 24  DTR2
 25  DTR1
-----------------------------------------
                                      ./.
```

```
GRP  1         1.861.885.00
               <--  <--  <--  CONTINUATION
=========================================

ELM 19
    CONNECTOR 4                (TC+AES+BNC)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
  1  AESGNDO
  2
  3  AESGNDI
  4
  5  GNDTCOUT
  6
  7  GNDTCIN
  8
  9  GNDCKI
 10
 11  GNDCKO
 12  RTOUT
 13  RTIOUT
 14  AESO1
 15  AESIO1
 16  AESIN
 17  AESIIN
 18  TCOUT
 19  TCIOUT
 20  TCIN
 21  TCIIN
 22  WDCKI
 23  VCLKIN
 24  SY/WDCKO
 25
-----------------------------------------
                                      ./.
```

```
******************************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T                             *  86/12/08  *  10:54  *  P A G E  48  *
******************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                           *  86/08/27 - 00                     *
******************************************************************************************************************************
ASY  4       1.861.320.00  ELECTRONICS BOX                                                         <--  <--  <--  CONTINUATION

GRP  1        1.861.885.00                GRP  1        1.861.885.00                GRP  1        1.861.885.00
           <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
=========================================  =========================================  =========================================

ELM 20                                     ELM 21                                     ELM 22
    CONNECTOR 5          (TC+EXT CLK)          CONNECTOR 6            (TERMINAL)          CONNECTOR 7     (BACKPANEL RACK 2)
-----------------------------------------  -----------------------------------------  -----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F  PNT SIGNAL NAME  COLOR LV TYPE          F  PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------  -----------------------------------------  -----------------------------------------
 1  SYWDIOUT                                1                                          1  SSDAICLK
 2  WDIIN                                   2  TSTSIFRD                                2  SSDAIDTR
 3  VIDICLK                                 3  TSTSIFTD                                3  SSDAIMTX
 4  TCIOUT                                  4                                          4  SSDAIMRX
 5  TCIIN                                   5                                          5  SSDAICTS
 6  RTIOUT                                  6                                          6  CBUSICLK
 7                                          7  +0V-                                    7  CBUSIAD
 8                                          8                                          8. CBUSIDAT
 9                                          9                                          9
10                                         10                                         10  +0V-
11                                         11                                         11  +0V-
12                                         12                                         12  +0V-
13                                         13                                         13  +0V-
14  SYWDOUT                                14                                         14  SSDACLK
15  WDIN                                   15                                         15  SSDADTR
16  VIDCLK                                 16                                         16  SSDAMTX
17  TCOUT                                  17                                         17  SSDAMRX
18  TCIN                                   18                                         18  SSDACTS
19  RTOUT                                  19                                         19  CBUSCLK
20                                         20                                         20  CBUSAD
21                                         21                                         21  CBUSDAT
22                                         22                                         22  +20PC
23                                         23                                         23  +20PC
24                                         24                                         24  +20PC
25                                         25                                         25  +20PC
-----------------------------------------  -----------------------------------------  -----------------------------------------
                                      ./.                                        ./.                                        ./.


******************************************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T                             *  86/12/08  *  10:54  *  P A G E  49  *
******************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                           *  86/08/27 - 00                     *
******************************************************************************************************************************
ASY  4       1.861.320.00  ELECTRONICS BOX                                                         <--  <--  <--  CONTINUATION

GRP  1        1.861.885.00                GRP  1        1.861.885.00                GRP  1        1.861.885.00
           <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
=========================================  =========================================  =========================================

ELM 23        1.861.515.00                 ELM 23        1.861.515.00                 ELM 51
    POWER SUPPLY                                      <--  <--  <--  CONTINUATION         BOX-RACK 2 CONNECTOR        (CABLE)
-----------------------------------------  -----------------------------------------  -----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F  PNT SIGNAL NAME  COLOR LV TYPE          F  PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------  -----------------------------------------  -----------------------------------------
 2A +0V-                                   32C +0V-                                    1  SSDAICLK
 2B +0V-                                   -----------------------------------------   2  SSDAIDTR
 2C +0V-                                                                               3  SSDAIMTX
 4A +0V-                                   ELM 50                                      4  SSDAIMRX
 4B +0V-                                       BOX-RACK 1 CONNECTOR        (CABLE)     5  SSDAICTS
 4C +0V-                                   -----------------------------------------   6  CBUSICLK
 6A +5V-                                   PNT SIGNAL NAME  COLOR LV TYPE          F   7  CBUSIAD
 6B +5V-                                   -----------------------------------------   8  CBUSIDAT
 6C +5V-                                    1  DACOUT1                                 9
 8A +5V-                                    2  DACOUT2                                10  +0V-
 8B +5V-                                    3  PDIBCLK                                11  +0V-
 8C +5V-                                    4  PDIWCLK                                12  +0V-
10A K-PWRUP                                 5  PDIDATA                                13  +0V-
10B SAMPCLK                                 6  TIREFINT                               14  SSDACLK
10C SAMPICLK                                7  TIREFEXT                               15  SSDADTR
12A PWROK                                   8  WRITR1                                 16  SSDAMTX
12B                                         9  WRITR2                                 17  SSDAMRX
12C FANOUT                                 10  PBITR1                                 18  SSDACTS
14A +20PC                                  11  PBITR2                                 19  CBUSCLK
14B +20PC                                  12  PDICLK3                                20  CBUSAD
14C +20PC                                  13  PDCLK3                                 21  CBUSDAT
16A +0V-                                   14  GNDDAC1                                22  +20PC
16B +0V-                                   15  GNDDAC2                                23  +20PC
16C +0V-                                   16  PDBCLK                                 24  +20PC
18A -20                                    17  PDWCLK                                 25  +20PC
18B -20                                    18  PDDATA                                 -----------------------------------------
18C -20                                    19  TREFINT                                                                      ./.
20A ANA-GND                                20  TREFEXT
20B ANA-GND                                21  WRTR1
20C ANA-GND                                22  WRTR2
22A +20                                    23  PBTR1
22B +20                                    24  PBTR2
22C +20                                    25  K-PWRUP
24A ANA-GND                                -----------------------------------------
24B ANA-GND                                                                      ./.
24C ANA-GND
26A +5V-
26B +5V-
26C +5V-
28A +5V-
28B +5V-
28C +5V-
30A +0V-
30B +0V-
30C +0V-
32A +0V-
32B +0V-

                                      ./.
```

```
****************************************************************************************************
*    WILLI STUDER AG    *     L O C A T I O N    P I N    L I S T          *  86/12/08  *  10:54  *   P A G E  50   *
****************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                            *  86/08/27 - 00                        *
****************************************************************************************************
ASY  4         1.861.320.00  ELECTRONICS BOX                                      <--  <--  <--  CONTINUATION

GRP  1         1.861.885.00
          <--  <--  <--  CONTINUATION
=========================================

ELM 52
    BOX-RACK 3 CONNECTOR          (CABLE)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  BLISYN
 2  WRICLK4
 3  WRIDOUT
 4  WRISYO
 5  DTRI8
 6  DTRI7
 7  DTRI6
 8  DTRI5
 9  DTRI4
10  DTRI3
11  DTRI2
12  DTRI1
13
14  BLSYN
15  WRCLK4
16  WRDOUT
17  WRSYO
18  DTR8
19  DTR7
20  DTR6
21  DTR5
22  DTR4
23  DTR3
24  DTR2
25  DTR1
-----------------------------------------

GRP  2         1.861.775.00
    ANALOG I/O
=========================================

ELM  1         1.861.775.00
    CHANNEL 2 OUTPUT                (XLR)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GNDOUT-2
 2  ANAOUT-2
 3  ANAIOUT2
-----------------------------------------

ELM  2         1.861.775.00
    CHANNEL 2 INPUT                 (XLR)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GNDIN-2
 2  ANAIN-2
 3  ANAIIN-2
-----------------------------------------

ELM  3         1.861.775.00
    CHANNEL 1 OUTPUT                (XLR)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GNDOUT-1
 2  ANAOUT-1
 3  ANAIOUT1
-----------------------------------------

ELM  4         1.861.775.00
    CHANNEL 1 INPUT                 (XLR)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GNDIN-1
 2  ANAIN-1
 3  ANAIIN-1
-----------------------------------------

ELM 21
    CHANNEL 1 I/O (CABLE)           (CIS)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1
 2  GNDIN-1
 3  ANAIN-1
 4  ANAIIN-1
 5  GNDOUT-1
 6  ANAOUT-1
 7  ANAIOUT1
-----------------------------------------
                                      ./.

GRP  2         1.861.775.00
          <--  <--  <--  CONTINUATION
=========================================

ELM 22
    CHANNEL 2 I/O (CABLE)           (CIS)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1
 2  GNDIN-2
 3  ANAIN-2
 4  ANAIIN-2
 5  GNDOUT-2
 6  ANAOUT-2
 7  ANAIOUT2
-----------------------------------------
```

```
****************************************************************************************************
*    WILLI STUDER AG    *     L O C A T I O N    P I N    L I S T          *  86/12/08  *  10:54  *   P A G E  51   *
****************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                            *  86/08/27 - 00                        *
****************************************************************************************************
ASY  4         1.861.320.00  ELECTRONICS BOX                                      <--  <--  <--  CONTINUATION

GRP  3
    DI/DO/TC/RT/CLOCK/TEST/BNC
=========================================

ELM  5
    DIGITAL OUTPUT (DO)             (XLR)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  AESGNDO
 2  AESO1
 3  AESIO1
-----------------------------------------

ELM  6
    DIGITAL INPUT (DI)              (XLR)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  AESGNDI
 2  AESIN
 3  AESIIN
-----------------------------------------

ELM  7
    TC OUTPUT                       (XLR)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GNDTCOUT
 2  TCOUT
 3  TCIOUT
-----------------------------------------

ELM  8
    TC INPUT                        (XLR)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GNDTCIN
 2  TCIN
 3  TCIIN
-----------------------------------------

ELM  9
    RT OUTPUT                       (XLR)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GROUND
 2  RTOUT
 3  RTIOUT
-----------------------------------------
                                      ./.

GRP  3
          <--  <--  <--  CONTINUATION
=========================================

ELM 10
    TIME CODE I/O BOARD             (CIS)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1
 2  GNDTCIN
 3  TCIN
 4  TCIIN
 5  GNDTCOUT
 6  TCOUT
 7  TCIOUT
-----------------------------------------

ELM 11
    TC + EXTERNAL CLK CONNECTOR
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  SYWDIOUT
 2  WCIIN
 3  VIDICLK
 4  TCIOUT
 5  TCIIN
 6
 7
 8
 9
10
11
12
13
14  SYWDOUT
15  WDIN
16  VIDCLK
17  TCOUT
18  TCIN
19
20
21
22
23
24
25
-----------------------------------------
                                      ./.

GRP  3
          <--  <--  <--  CONTINUATION
=========================================

ELM 12
    TEST (TERMINAL)               (RS232)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1
 2  TSTSIFRD
 3  TSTSIFTD
 4
 5
 6
 7  +0V-
 8
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
-----------------------------------------

ELM 13
    CLOCK OUTPUT                    (BNC)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  SY/WDCKO
 2  GNDCKO
-----------------------------------------

ELM 14
    CLOCK INPUT                     (BNC)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  WCCKI
 2  GNDCKI
-----------------------------------------
                                      ./.
```

```
**********************************************************************************************************************
*    WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T               * 86/12/08 * 10:54 *   P A G E  52   *
**********************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                      *
**********************************************************************************************************************
ASY  4         1.861.320.00  ELECTRONICS ECX                                            <--  <--  <--  CONTINUATION

GRP  3                                      GRP  3
           <--  <--  <--  CONTINUATION                 <--  <--  <--  CONTINUATION
========================================    ========================================

ELM 15                                      ELM 26        1.861.776.00
    VIDEO CLOCK INPUT              (BNC)        BNC INTERCONNECTION            (CIS)
----------------------------------------    ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F    PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------    ----------------------------------------
 1  VCLKIN                                   1  VCLKIN
 2  GNDCKI                                   2
----------------------------------------     3  GNDCKI
                                             4  WDCKI
ELM 23        1.861.775.00                   5  GNDCKO
    DIGITAL I/O                    (CIS)     6  SY/WDCKO
----------------------------------------    ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1
 2  AESGNDI
 3  AESIN
 4  AESIIN
 5  AESGNDO
 6  AESOI
 7  AESIOI
----------------------------------------

ELM 24        1.861.771.00
    TC TRANSFORMATOR               (CIS)
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1
 2  GNDTCIN
 3  TCIN
 4  TCIIN
 5  GNDTCOUT
 6  TCOUT
 7  TCIOUT
----------------------------------------

ELM 25
    REFERENCE TIME I/O             (CIS)
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  GROUND
 2
 3
 4
 5  GROUND
 6  RTOUT
 7  RTIOUT
----------------------------------------
                                     ./.
```

```
**********************************************************************************************************************
*    WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T               * 86/12/08 * 10:54 *   P A G E  53   *
**********************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                      *
**********************************************************************************************************************
ASY  5         1.050.111.00  HEADBLOCK TYPE S

GRP  1        1.116.861.20                  GRP  2        1.116.861.10                  GRP  3        1.861.805.00
    READ HEAD                                   WRITE HEAD                                  HEAD PREAMPLIFIER
========================================    ========================================    ========================================

ELM  2        1.116.861.20                  ELM  1        1.116.861.10                  ELM  1        1.861.805.00
    READ HEAD INTERCONNECTION    (FLEXI)        HEADBLOCK CONNECTOR WRITE       (P4)        HEAD-AMPLIFIER CONNECTOR (D-SUB 25)
----------------------------------------    ----------------------------------------    ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F    PNT SIGNAL NAME  COLOR LV TYPE         F    PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------    ----------------------------------------    ----------------------------------------
 1  RDHD211                                  1  WRTOUT1                                  1  HDTR5
 2  RDHD212                                  2  IWROUT1                                  2  HDTR9
 3  RDHD209                                  3  WRTOUT2                                  3  HDTR7
 4  RDHD210                                  4  IWROUT2                                  4  HDTR3
 5  RDHD207                                  5  WRTOUT3                                  5  HDTR4
 6  RDHD208                                  6  IWROUT3                                  6  HDTR8
 7  RDHD205                                  7  WRTOUT4                                  7  HDTR10
 8  RDHD206                                  8  IWROUT4                                  8  HDTR6
 9  RDHD203                                  9  WRTOUT5                                  9  HDTR1
10  RDHD204                                 10  IWROUT5                                 10  HDTR11
11  RDHD201                                 11  WRTOUT6                                 11  HDTR12
12  RDHD202                                 12  IWROUT6                                 12  HDTR2
13  RDHD111                                 13  WRTOUT7                                 13  +10
14  RDHD112                                 14  IWROUT7                                 14  +10
15  RDHD109                                 15  WRTOUT8                                 15  +10
16  RDHD110                                 16  IWROUT8                                 16  +10
17  RDHD107                                 17  WRTOUT9                                 17  +10
18  RDHD108                                 18  IWROUT9                                 18  +0.0
19  RDHD105                                 19  WRTOUT10                                19  +0.0
20  RDHD106                                 20  IWROUT10                                20  +0.0
21  RDHD103                                 21                                          21  +0.0
22  RDHD104                                 22                                          22  -10
23  RDHD101                                 23  WRTOUT11                                23  -10
24  RDHD102                                 24  IWROUT11                                24  -10
----------------------------------------    25  WRTOUT12                                25  -10
                                            26  IWROUT12                                ----------------------------------------
                                            ----------------------------------------
                                                                                        ELM  2        1.861.805.00
                                                                                            CONNECTOR EVEN TRACKS (AMP12)
                                                                                        ----------------------------------------
                                                                                        PNT SIGNAL NAME  COLOR LV TYPE         F
                                                                                        ----------------------------------------
                                                                                         1  RDHD201
                                                                                         2  RDHD202
                                                                                         3  RDHD203
                                                                                         4  RDHD204
                                                                                         5  RDHD205
                                                                                         6  RDHD206
                                                                                         7  RDHD207
                                                                                         8  RDHD208
                                                                                         9  RDHD209
                                                                                        10  RDHD210
                                                                                        11  RDHD211
                                                                                        12  RDHD212
                                                                                        ----------------------------------------
                                                                                                                             ./.
```

```
***********************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T           *  86/12/08  *  10:54  *  P A G E  54  *
***********************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                         *  86/08/27 - 00                      *
***********************************************************************************************************
ASY  5       1.050.111.00  HEADBLOCK TYPE S                                      <--  <--  <--  CONTINUATION

GRP  3       1.861.805.00
           <--  <--  <--  CONTINUATION
=========================================

ELM  3       1.861.805.00
   CONNECTOR ODD TRACKS (AMP12)
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  RDHD101
 2  RDHD102
 3  RDHD103
 4  RDHD104
 5  RDHD105
 6  RDHD106
 7  RDHD107
 8  RDHD108
 9  RDHD109
10  RDHD110
11  RDHD111
12  RDHD112
-----------------------------------------
```

```
***********************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T           *  86/12/08  *  10:54  *  P A G E  55  *
***********************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                         *  86/08/27 - 00                      *
***********************************************************************************************************
ASY 11       1.861.080.00  TAPE TRANSPORT D820X
```

```
GRP  1          54.04.0111
   POWER INPUT
=========================================

ELM  1
   POWER CONNECTOR                    P01
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  LINE1          1      J
 2  LINE2          6      J
 3  GND            5-4    J
-----------------------------------------
```

```
GRP  2
   EARTH CONNECTORS
=========================================

ELM  1
   EARTH CONTACT
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GND            5-4    J
-----------------------------------------

ELM  2
   EARTH CONTACT
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GND            4      J
-----------------------------------------

ELM  3        1.010.001.53
   EARTH CONTACT
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  GND
-----------------------------------------
```

```
GRP  3            55.12.0001
   POWER SWITCH
=========================================

ELM  1
   POWER SWITCH
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  LINE1          1      J
 2  LINE2          6      J
 3  S-LINE1        1      J
 4  S-LINE2        6      J
-----------------------------------------
```

```
***********************************************************************************************************
*   WILLI STUDER AG   *   L O C A T I O N   P I N   L I S T           *  86/12/08  *  10:54  *  P A G E  56  *
***********************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                         *  86/08/27 - 00                      *
***********************************************************************************************************
ASY 11       1.861.080.00  TAPE TRANSPORT D820X                                  <--  <--  <--  CONTINUATION
```

```
GRP  4       1.180.337.00
   LINE FILTER
=========================================

ELM  1
   LINE FILTER
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  S-LINE1        1      Y
 2  S-LINE1        0      L
 3
 4  LINE1          1      Y
 5  LINE1          1      Y
 6
 7
 8  SF-LINE1       1      Y
 9  SF-LINE1       8      L
10  SF-LINE1       1      Y
11  GND            4      Y
12  S-LINE2        0      L
13
14  LINE2          6      Y
15  LINE2          6      Y
16  S-LINE2        6      Y
17
18
19  SF-LINE2       8      L
20  SF-LINE2       4      Y
21  SF-LINE2       8      Y
-----------------------------------------
```

```
GRP  5
   FUSES (LINE)
=========================================

ELM  1         53.03.0106
   FUSE HOLDER,                       F01
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  SF-LINE1       1      L
 2  PRIMV-2        1      L
-----------------------------------------

ELM  2         53.03.0106
   FUSE HOLDER,                       F02
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  SF-LINE1       1      L
 2  PRIMW-2        1      L
-----------------------------------------
```

```
GRP  6
   DISTRIBUTOR
=========================================

ELM  1
   DISTRIBUTOR
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1A PRIMV-2        1      K
 1B
 1C PRIMV-2        1      K
 1D PRIMV-2        1      K
 2A PRIMV-3        2      K
 2B
 2C PRIMV-3        2      K
 2D PRIMV-3        2      K
 3A PRIMV-5        3      K
 3B
 3C PRIMV-5        3      K
 3D PRIMV-5        3      K
 4A SF-LINE2       4      K
 4B
 4C SF-LINE2       4      K
 4C SF-LINE2       4      K
 5A PRIMW-2        5      K
 5B
 5C PRIMW-2        5      K
 5C PRIMW-2        5      K
 6A PRIMW-3        6      K
 6B
 6C PRIMW-3        6      K
 6C PRIMW-3        6      K
 7A PRIMW-5        7      K
 7B
 7C PRIMW-5        7      K
 7D PRIMW-5        7      K
 8A SF-LINE2       8      K
 8B
 8C SF-LINE2       8      K
 8D SF-LINE2       8      K
-----------------------------------------
```

```
******************************************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T                                                *  86/12/08  *  10:54  *   P A G E  57   *
******************************************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                                                 *  86/08/27 - 00                          *
******************************************************************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                                                             <--  <--  <--  CONTINUATION

GRP  7                                              GRP  8        1.820.520.00                          GRP  8        1.820.520.00
   VOLTAGE SELECTOR                                    MAIN TRANSFORMER (SPOOLING MOTORS)                                 <--  <--  <--  CONTINUATION
==============================================      ==============================================      ==============================================

ELM  1        55.12.0001                            ELM  1        1.820.521.00                          ELM  4        1.820.524.00
   VOLTAGE SELECTOR                       S01          PRIMARY 1                                           SECONDARY 2
----------------------------------------------      ----------------------------------------------      ----------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F       PNT SIGNAL NAME  COLOR LV TYPE              F       PNT SIGNAL NAME  COLOR LV TYPE              F
----------------------------------------------      ----------------------------------------------      ----------------------------------------------
 1  PRIMV-2       1        J                         1  PRIMW-1       0        Y                         9  ACPWM-C6      0        Y
 2  PRIMV-3       2        J                         2  PRIMW-2       5        Y                        10  ACPWM-C5      0        Y
 3  PRIMV-5       3        J                         3  PRIMW-3       6        Y                        11  ACPWM-C4      0        Y
 4  SF-LINE2      4        J                         4  PRIMW-1       0        Y                        12  ACPWM-C3      0        Y
----------------------------------------------      ----------------------------------------------      13  ACPWM-C2      0        Y
                                                                                                        14  ACPWM-C1      0        Y
ELM  2        55.12.0001                            ELM  2        1.820.522.00                          15  ACPWM-B1      9        Y
   VOLTAGE SELECTOR                       S02          PRIMARY 2                                        16  ACPWM-B2      9        Y
----------------------------------------------      ----------------------------------------------      17  ACPWM-B3      9        Y
PNT SIGNAL NAME  COLOR LV TYPE              F       PNT SIGNAL NAME  COLOR LV TYPE              F       18  ACPWM-B4      9        Y
----------------------------------------------      ----------------------------------------------      19  ACPWM-B5      9        Y
 1  PRIMV-3       2        J                         5  PRIMW-5       7        Y                        20  ACPWM-B6      9        Y
 2  PRIMW-3       6        J                         6  PRIMW-6       0        Y                        ----------------------------------------------
 3  PRIMV-5       3        J                         7  PRIMW-6       0        Y
 4  PRIMW-5       7        J                         8  SF-LINE2      8        Y                        ELM  5
----------------------------------------------      ----------------------------------------------         CONNECTOR TO SPOOLING MOTOR SUPPLY
                                                                                                        ----------------------------------------------
ELM  3        55.12.0001                            ELM  3        1.820.523.00                          PNT SIGNAL NAME  COLOR LV TYPE              F
   VOLTAGE SELECTOR                       S03          SECONDARY 1                                      ----------------------------------------------
----------------------------------------------      ----------------------------------------------       1  ACPWM-A1      1        M
PNT SIGNAL NAME  COLOR LV TYPE              F       PNT SIGNAL NAME  COLOR LV TYPE              F        2  ACPWM-A2      2        M
----------------------------------------------      ----------------------------------------------       3  ACPWM-A3      3        M
 1  PRIMW-2       5        J                         9  ACPWM-A6      6        Y                         4  ACPWM-A4      4        M
 2  PRIMW-3       6        J                        10  ACPWM-A5      5        Y                         5  ACPWM-A5      5        M
 3  PRIMW-5       7        J                        11  ACPWM-A4      4        Y                         6  ACPWM-A6      6        M
 4  SF-LINE2      8        J                        12  ACPWM-A3      3        Y                         7  ACPWM-B1      9        F
----------------------------------------------      13  ACPWM-A2      2        Y                         8  ACPWM-B2      9        F
                                                    14  ACPWM-A1      1        Y                         9  ACPWM-B3      9        F
                                                    15  ACPWM-C1      0        Y                        10  ACPWM-B4      9        F
                                                    16  ACPWM-C2      0        Y                        11  ACPWM-B5      9        F
                                                    17  ACPWM-C3      0        Y                        12  ACPWM-B6      9        F
                                                    18  ACPWM-C4      0        Y                        ----------------------------------------------
                                                    19  ACPWM-C5      0        Y
                                                    20  ACPWM-C6      0        Y
                                                    ----------------------------------------------
                                                                                               ./.
```

```
******************************************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T                                                *  86/12/08  *  10:54  *   P A G E  58   *
******************************************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                                                 *  86/08/27 - 00                          *
******************************************************************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                                                             <--  <--  <--  CONTINUATION

GRP  9        1.820.520.00                          GRP  9        1.820.520.00                          GRP 10
   MAIN TRANSFORMER                                                   <--  <--  <--  CONTINUATION          FUSES (SECONDARY)
==============================================      ==============================================      ==============================================

ELM  1        1.820.521.00                          ELM  4        1.820.524.00                          ELM  1              53.03.0106
   PRIMARY 1                                           SECONDARY 2                                         FUSE                                   F01
----------------------------------------------      ----------------------------------------------      ----------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F       PNT SIGNAL NAME  COLOR LV TYPE              F       PNT SIGNAL NAME  COLOR LV TYPE              F
----------------------------------------------      ----------------------------------------------      ----------------------------------------------
 1  PRIMV-1       0        Y                         9  ACPWE-C6      0        Y                         1  ACPWE-A1      6        L
 2  PRIMV-2       1        Y                        10  ACPWE-C5      0        Y                         2  ACPWE-D1      9        L
 3  PRIMV-3       2        Y                        11  ACPWE-C4      0        Y                        ----------------------------------------------
 4  PRIMV-1       0        Y                        12  ACPWE-C3      0        Y
----------------------------------------------      13  ACPWE-C2      0        Y                        ELM  2              53.03.0106
                                                    14  ACPWE-C1      0        Y                           FUSE                                   F02
ELM  2        1.820.522.00                          15  ACPWE-B1      5        Y                        ----------------------------------------------
   PRIMARY 2                                        16  ACPWE-B2      5        Y                        PNT SIGNAL NAME  COLOR LV TYPE              F
----------------------------------------------      17  ACPWE-B3      5        Y                        ----------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F       18  ACPWE-B4      4        Y                         1  ACPWE-A4      1        L
----------------------------------------------      19  ACPWE-B5      4        Y                         2  ACPWE-D4      5        L
 5  PRIMV-5       3        Y                        20  ACPWE-B6      0        Y                        ----------------------------------------------
 6  PRIMV-6       0        Y                        ----------------------------------------------
 7  PRIMV-6       0        Y                                                                            ELM  3              53.03.0106
 8  SF-LINE2      4        Y                                                                               FUSE                                   F03
----------------------------------------------                                                          ----------------------------------------------
                                                                                                        PNT SIGNAL NAME  COLOR LV TYPE              F
ELM  3        1.820.523.00                                                                              ----------------------------------------------
   SECONDARY 1                                                                                           1  ACPWE-A6      7        L
----------------------------------------------                                                           2  ACPWE-D6      8        L
PNT SIGNAL NAME  COLOR LV TYPE              F                                                           ----------------------------------------------
----------------------------------------------
 9  ACPWE-A6      7        Y
10  ACPWE-A5      1        Y
11  ACPWE-A4      1        Y
12  ACPWE-A3      6        Y
13  ACPWE-A2      6        Y
14  ACPWE-A1      6        Y
15  ACPWE-C1      0        Y
16  ACPWE-C2      0        Y
17  ACPWE-C3      0        Y
18  ACPWE-C4      0        Y
19  ACPWE-C5      0        Y
20  ACPWE-C6      0        Y
----------------------------------------------
                                           ./.
```

```
********************************************************************************************************
*    WILLI STUDER AG    *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T          *  86/12/08  *  10:54  *   P A G E  59   *
********************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                        *  86/08/27 - 00                          *
********************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPORT D820X                                              <--  <--  <--  CONTINUATION
```

```
GRP 11
    RECTIFIERS
========================================

ELM  1          70.01.0231
    RECTIFIER                       DZ01
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  ACPWE-D1      9        L
 2  ACPWE-B1      5        L
 3  +STABIN       2        L
 4  + 0.0         0        L
----------------------------------------

ELM  2          70.01.0231
    RECTIFIER                       DZ02
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  ACPWE-D4      5        L
 2  ACPWE-B4      4        L
 3  + 0.0         0        L
 4  -STABIN       6        L
----------------------------------------

ELM  3          70.01.0231
    RECTIFIER                       DZ03
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  ACPWE-D6      8        L
 2  ACPWE-B6      0        L
 3  +CAPMOT       2        L
 4  0CAPMOT       4        L
----------------------------------------
                                     ./.
```

```
GRP 11
           <--  <--  <--  CONTINUATION
========================================

ELM  4            52.01.0101
    DISTRIBUTOR
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1A ACPWE-A1      6        K
 1B ACPWE-A1      6        K
 1C ACPWE-A3      6        K
 1D ACPWE-A2      6        K
 2A ACPWE-C1      9        K
 2B ACPWE-D1      9        K
 2C ACPWE-D1      9        K
 2D
 3A ACPWE-B1      5        K
 3B ACPWE-B2      5        K
 3C ACPWE-B1      5        K
 3D ACPWE-B1      5        K
 4A
 4B ACPWE-B1      5        K
 4C ACPWE-B1      5        K
 4D ACPWE-B3      5        K
 5A ACPWE-A4      1        K
 5B ACPWE-A4      1        K
 5C
 5D ACPWE-A5      1        K
 6A ACPWE-B5      4        K
 6B
 6C ACPWE-B4      4        K
 6D ACPWE-B4      4        K
----------------------------------------
```

```
GRP 12
    CAPACITORS
========================================

ELM  1           59.26.7103
    CAPACITOR                        C01
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  +STABIN       2        L
 2  + 0.0         0        L
----------------------------------------

ELM  2           59.26.7103
    CAPACITOR                        C02
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  +STABIN       2        L
 2  + 0.0         0        L
----------------------------------------

ELM  3           59.26.7103
    CAPACITOR                        C03
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  + 0.0         0        L
 2  -STABIN       6        L
----------------------------------------

ELM  4           59.26.7103
    CAPACITOR                        C04
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  +CAPMOT       2        L
 2  0CAPMOT       4        L
----------------------------------------
                                     ./.
```

```
********************************************************************************************************
*    WILLI STUDER AG    *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T          *  86/12/08  *  10:54  *   P A G E  60   *
********************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                        *  86/08/27 - 00                          *
********************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPORT D820X                                              <--  <--  <--  CONTINUATION
```

```
GRP 12
           <--  <--  <--  CONTINUATION
========================================

ELM  5
    CONNECTOR TO GRP32, ELM01        P01
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  +STABIN       2        M
 2  + 0.0         0        M
 3  + 0.0         0        M
 4  +STABIN       2        M
 5  + 0.0         0        M
 6  -STABIN       6        M
 7  +CAPMOT       2        M
 8
 9  0CAPMOT       4        M
10  ACPWE-D1      9        M
11
12  ACPWE-B1      5        M
----------------------------------------
```

```
GRP 18          1.820.592.00
    SUPPLY CABLE, SPOOLING MOTORS
========================================

ELM  1
    FROM GRP31, ELM01                J01
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  +PSVTMOT      2        F
 2  +PSVTMOT      2        F
 3  +PSVTMOT      2        F
 4  +PSVTMOT      2        F
 5  +PSVTMOT      2        F
 6  +PSVTMOT      2        F
 7  +PSVTMOT      2        F
 8  +PSVTMOT      2        F
 9  -PSVTMOT      6        F
10  -PSVTMOT      6        F
11  -PSVTMOT      6        F
12  -PSVTMOT      6        F
13  -PSVTMOT      6        F
14  -PSVTMOT      6        F
15  -PSVTMOT      6        F
16  -PSVTMOT      6        F
17                1        F
18                1        F
19                3        F
20                3        F
21  + 0.0         4        F
22  + 0.0         4        F
23                5        F
24                5        F
----------------------------------------

ELM  2
    TO GRP33, ELM01                  P01
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1                1        F
 2  -PSVTMOT      6        F
 3  +PSVTMOT      2        F
 4                3        F
 5  -PSVTMOT      6        F
 6  +PSVTMOT      2        F
 7  + 0.0         4        F
 8  -PSVTMOT      6        F
 9  +PSVTMOT      2        F
10                5        F
11  -PSVTMOT      6        F
12  +PSVTMOT      2        F
----------------------------------------
                                     ./.
```

```
GRP 18          1.820.592.00
           <--  <--  <--  CONTINUATION
========================================

ELM  3
    TO GRP30, ELM01                  P02
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1                1        F
 2  -PSVTMOT      6        F
 3  +PSVTMOT      2        F
 4                3        F
 5  -PSVTMOT      6        F
 6  +PSVTMOT      2        F
 7  + 0.0         4        F
 8  -PSVTMOT      6        F
 9  +PSVTMOT      2        F
10                5        F
11  -PSVTMOT      6        F
12  +PSVTMOT      2        F
----------------------------------------
```

```
************************************************************************************************************************************
*    WILLI STUDER AG    *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T                   *  86/12/08  *  10:54  *   P A G E  61   *
************************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                                 *  86/08/27 - 00                      *
************************************************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPORT D820X                                                       <--  <--  <--  CONTINUATION

GRP 19          1.820.591.00                 GRP 19          1.820.591.00                 GRP 20          1.820.701.00
    SUPPLY CABLE, ELECTRONICS                                <--  <--  <--  CONTINUATION      BACKPANEL TAPE DECK
==========================================   ==========================================   ==========================================

ELM  1                                       ELM  2                                       ELM  1
    FROM GRP32, ELM02                   J01      TO GRP21, ELM02                     P01      SPOOLING MOTOR DRIVE AMP. LEFT     P01
------------------------------------------   ------------------------------------------   ------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F   PNT SIGNAL NAME  COLOR LV TYPE           F   PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------   ------------------------------------------   ------------------------------------------

 1  + 5.6          3         F                1  + 5.6          3         M                1  + 0.0
 2  + 5.6          3         F                2  + 5.6          3         M                2  + 0.0
 3  +5.6SENS       4         F                3  +5.6SENS       4         M                3  + 5.6
 4  TD-C76K        9         F                4  TD-C76K        9         M                4  + 5.6
 5  + 0.0          0         F                5  + 0.0          0         M                5  +15.0
 6  + 0.0          0         F                6  + 0.0          0         M                6  -15.0
 7  T-PWRON        5         F                7  T-PWRON        5         M                7  PWMPL-L1
 8  + 0.0          0         F                8  + 0.0          0         M                8  PWMPL-L2
 9  + 0.0          0         F                9  + 0.0          0         M                9  PWMPL-H1
10  + 0.0          0         F               10  + 0.0          0         M               10  PWMPL-H2
11  +15.0          2         F               11  +15.0          2         M               11  PWMPL-L3
12  -15.0          6         F               12  -15.0          6         M               12  PWMPL-L4
13  + 0.0          0         F               13  + 0.0          0         M               13  AN-ICLD
14  + 0.0          0         F               14  + 0.0          0         M               14  PWMPL-L5
15  +24.0          7         F               15  +24.0          7         M               15  PWMPL-L6
16  +REMSUP        8         F               16  +REMSUP        8         M               16  + 0.0
17  +STABSNS       3         F               17  +STABSNS       3         M               ------------------------------------------
18  -STABSNS       5         F               18  -STABSNS       5         M
19  -26.0          9         F               19  -26.0          9         M               ELM  2
20  +26.0          1         F               20  +26.0          1         M                   SPOOLING MOTOR DRIVE AMP. RIGHT    P02
21  + 0.0          0         F               21  + 0.0          0         M               ------------------------------------------
22  +0.0SENS       0         F               22  +0.0SENS       0         M               PNT SIGNAL NAME  COLOR LV TYPE           F
23  0CAPMOT        4         F               23  0CAPMOT        4         M               ------------------------------------------
24  +CAPMOT        2         F               24  +CAPMOT        2         M
------------------------------------------   ------------------------------------------    1  + 0.0
                                       ./.                                                 2  + 0.0
                                                                                           3  + 5.6
                                                                                           4  + 5.6
                                                                                           5  +15.0
                                                                                           6  -15.0
                                                                                           7  PWMPR-L1
                                                                                           8  PWMPR-L2
                                                                                           9  PWMPR-H1
                                                                                          10  PWMPR-H2
                                                                                          11  PWMPR-L3
                                                                                          12  PWMPR-L4
                                                                                          13  AN-ICRD
                                                                                          14  PWMPR-L5
                                                                                          15  PWMPR-L6
                                                                                          16  + 0.0
                                                                                          ------------------------------------------
                                                                                                                                 ./.
```

```
************************************************************************************************************************************
*    WILLI STUDER AG    *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T                   *  86/12/08  *  10:54  *   P A G E  62   *
************************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                                 *  86/08/27 - 00                      *
************************************************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPORT D820X                                                       <--  <--  <--  CONTINUATION

GRP 20          1.820.701.00                 GRP 20          1.820.701.00                 GRP 20          1.820.701.00
                <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION                  <--  <--  <--  CONTINUATION
==========================================   ==========================================   ==========================================

ELM  3                                       ELM  5                                       ELM  7
    CAPSTAN MOTOR DRIVE AMPLIFIER      P03       SPOOLING MOTOR SUPPLY              P05       TAPE LIFT MOTOR, LEFT              P07
------------------------------------------   ------------------------------------------   ------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F   PNT SIGNAL NAME  COLOR LV TYPE           F   PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------   ------------------------------------------   ------------------------------------------

 1  + 0.0                                     1  + 0.0                                     1  + 0.0
 2  + 0.0                                     2  + 0.0                                     2  + 0.0
 3  + 5.6                                     3  + 5.6                                     3  + 5.6
 4  + 5.6                                     4  + 5.6                                     4  + 5.6
 5  +15.0                                     5  +15.0                                     5  +26.0
 6  -15.0                                     6  -15.0                                     6  -26.0
 7  AN-CSPDC                                  7  TD-C307K                                  7
 8  TD-TCM1                                   8  TD-PWENB                                  8
 9  + 0.0                                     9  +YSUP                                     9
10  TD-TCM2                                  10  -YSUP                                    10
11  + 0.0                                    11                                           11  TD-RALP1
12  + 0.0                                    12                                           12  TD-RALC2
13  TD-CPREF                                 13                                           13  TD-RALP2
14  TD-CAPDC                                 14                                           14  TD-RALC1
15  TD-C76K                                  15                                           15  TD-RALEN
16  + 0.0                                    16                                           16
------------------------------------------   ------------------------------------------   ------------------------------------------

ELM  4                                       ELM  6                                       ELM  8
    PAR. CONT. INT. SYNCHRONIZER       P04       EXT. SENSORS                       P06       TAPE LIFT MOTOR, RIGHT             P08
------------------------------------------   ------------------------------------------   ------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F   PNT SIGNAL NAME  COLOR LV TYPE           F   PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------   ------------------------------------------   ------------------------------------------

 1  + 0.0                                     1  + 0.0                                     1  + 0.0
 2  + 0.0                                     2  + 0.0                                     2  + 0.0
 3  + 5.6                                     3  + 5.6                                     3  + 5.6
 4  + 5.6                                     4  + 5.6                                     4  + 5.6
 5  +15.0                                     5  +15.0                                     5  +26.0
 6  -15.0                                     6  -15.0                                     6  -26.0
 7                                            7  TD-YTRSP                                  7
 8  TD-TCDIR                                  8  TD-SHLD                                   8
 9  + 0.0                                     9  TD-TRSP                                   9
10  TD-TCMV                                  10  TD-TRSPR                                 10
11  + 0.0                                    ------------------------------------------   11  TD-RARP1
12  T-REFINT                                                                        ./.   12  TD-RARC2
13  TD-CAPSY                                                                              13  TD-RARP2
14  TD-MVDIR                                                                              14  TD-RARC1
15  TD-MVCLK                                                                              15  TD-RAREN
16  + 0.0                                                                                 16
------------------------------------------                                                ------------------------------------------
                                       ./.                                                                                       ./.
```

```
**********************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N     P I N     L I S T                        *  86/12/08  *  10:54  *   P A G E  63   *
**********************************************************************************************************************************
*                1.861.022.00  D820X PCM RECORDER                                            *  86/08/27 - 00                        *
**********************************************************************************************************************************
ASY 11           1.861.080.00  TAPE TRANSPORT D820X                                                      <--  <--  <--  CONTINUATION
```

```
GRP 20           1.820.701.00
                 <--  <--  <--  CONTINUATION
============================================

ELM  9
   TACHO SENSOR (SPOOLING M. LEFT)   P09
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE            F
--------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  AN-RES1
 8  TD-TML2
 9  TD-TML1
10
--------------------------------------------

ELM 10
   TACHO SENSOR (SPOOLING M. RIGHT) P10
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE            F
--------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  AN-RES2
 8  TD-TMR2
 9  TD-TMR1
10
--------------------------------------------

ELM 11
   MOVE SENSOR                         P11
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE            F
--------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  AN-RES3
 8  TD-MOVE2
 9  TD-MOVE1
10
--------------------------------------------
                                        ./.
```

```
GRP 20           1.820.701.00
                 <--  <--  <--  CONTINUATION
============================================

ELM 12
   TAPE TENSION SENSOR, LEFT           P12
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE            F
--------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7
 8
 9  AN-TTL
10
--------------------------------------------

ELM 13
   TAPE TENSION SENSOR, RIGHT          P13
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE            F
--------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7
 8
 9  AN-TTR
10
--------------------------------------------
                                        ./.
```

```
GRP 20           1.820.701.00
                 <--  <--  <--  CONTINUATION
============================================

ELM 14
   FUSE FAILURE DETECTOR               P14
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE            F
--------------------------------------------
 1  +CAPMOT
 2  +CAPMOT
 3
 4  +24.0
 5  -STABSNS
 6  T-SUPVON
 7  +STABSNS
 8  +STABSNS
 9  + 5.6
10  + 5.6
11  + 0.0
12  + 0.0
13  -15.0
14  +15.0
15  +26.0
16  -26.0
--------------------------------------------
                                        ./.
```

```
**********************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N     P I N     L I S T                        *  86/12/08  *  10:54  *   P A G E  64   *
**********************************************************************************************************************************
*                1.861.022.00  D820X PCM RECORDER                                            *  86/08/27 - 00                        *
**********************************************************************************************************************************
ASY 11           1.861.080.00  TAPE TRANSPORT D820X                                                      <--  <--  <--  CONTINUATION
```

```
GRP 20           1.820.701.00
                 <--  <--  <--  CONTINUATION
============================================

ELM 15
   DISPLAY DRIVER                      P15
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE            F
--------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +24.0
 6  +24.0
 7  TM-DSL4
 8  TM-ISL4
 9  TM-DRES
10  TM-IRES
11  TM-DRW
12  TM-IRW
13  TM-DENB
14  TM-IENB
15  TM-DADR2
16  TM-IADR2
17  TM-DADR1
18  TM-IADR1
19  TM-DADR0
20  TM-IADR0
21  TM-SHIR
22  0.0 VCU
23  TM-KBIR
24  0.0 VCU
25  TM-DATA7
26  0.0 VCU
27  TM-DATA6
28  0.0 VCU
29  TM-DATA5
30  0.0 VCU
31  TM-DATA4
32  0.0 VCU
33  TM-DATA3
34  0.0 VCU
35  TM-DATA2
36  0.0 VCU
37  TM-DATA1
38  0.0 VCU
39  TM-DATA0
40  0.0 VCU
--------------------------------------------
                                        ./.
```

```
GRP 20           1.820.701.00
                 <--  <--  <--  CONTINUATION
============================================

ELM 16
   PARALLEL REMOTE CONTROL             P16
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE            F
--------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +REMSUP
 6  +REMSUP
 7  TM-DSL5
 8  TM-ISL5
 9  TM-DRES
10  TM-IRES
11  TM-DRW
12  TM-IRW
13  TM-DENB
14  TM-IENB
15  T-REFEXT
16  0.0 VCU
17  TC-ICMV
18  TC-TCDIR
19  TM-DADR0
20  TM-IADR0
21  TM-REMIR
22  0.0 VCU
23  TC-MVCLK
24  TD-MVDIR
25  TM-DATA7
26  0.0 VCU
27  TM-DATA6
28  0.0 VCU
29  TM-DATA5
30  0.0 VCU
31  TM-DATA4
32  0.0 VCU
33  TM-DATA3
34  0.0 VCU
35  TM-DATA2
36  0.0 VCU
37  TM-DATA1
38  0.0 VCU
39  TM-DATA0
40  0.0 VCU
--------------------------------------------
                                        ./.
```

```
GRP 20           1.820.701.00
                 <--  <--  <--  CONTINUATION
============================================

ELM 17
   TO HEAD BLOCK ASSEMBLY              P17
--------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE            F
--------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  T-SADA
 8  T-SADB
 9  T-SADC
10  T-READSL
11  T-WRTSL
12  T-DT-RP1
13  T-DT-RP2
14  T-DT-SJM
15  T-DT-MP
16  T-DT-RES
17
18
19
20  + 0.0
21
22  + 0.0
23
24  +24.0
25  + 0.0
26  + 0.0
--------------------------------------------
                                        ./.
```

```
*****************************************************************************************************************
*   WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T              *  86/12/08  *  10:54  *  P A G E  65  *
*****************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                               *  86/08/27 - 00                    *
*****************************************************************************************************************
ASY 11       1.861.080.00  TAPE TRANSPORT D820X                                          <--  <--  <--  CONTINUATION
```

```
GRP 20         1.820.701.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 18
    VU-METER PANEL, EXTERNAL           P18
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  T-SADA
 8  T-SADB
 9  T-SADC
10  T-READSL
11  T-WRTSL
12  T-DT-CH1
13  T-DT-CH2
14  T-DT-CH3
15  T-DT-MP
16  T-DT-RES
17
18
19
20  + 0.0
21  T-VARSPD
22  + 0.0
23
24  +24.0
25  + 0.0
26  + 0.0
------------------------------------------
                                       ./.
```

```
GRP 20         1.820.701.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 19
    SOURCE SELECTOR                    P19
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  T-SADA
 8  T-SADB
 9  T-SACC
10  T-READSL
11  T-WRTSL
12  T-DT-CH1
13  T-DT-CH2
14  T-DT-CH3
15  T-DT-MP
16  T-DT-RES
------------------------------------------

ELM 30
    SSDA INT. SYNCHRONIZER             P20
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  GND
 2  TDS-CLK
 3  SYS-CTS
 4  SYS-RX
 5  SYS-CTR
 6  SYS-TX
 7
 8  GND
 9
10
------------------------------------------
                                       ./.
```

```
GRP 20         1.820.701.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 31
    TO GRP25. ELM04/05                 P21
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  FRMGND
 2  TRANSCM
 3  TRANSA
 4  TRANSB
 5  RECEIVB
 6  RECEIVA
 7  RECEIVCM
 8  FRMGND
 9  SPARE
10
------------------------------------------

ELM 32
    TO ASSY1. GR80. EL21               P24
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  +0.0
 2  TD-MVCLK
 3  +0.0
 4  TD-MVDIR
 5  +0.0
 6
 7  +0.0
 8  TREFINT
 9  +0.0
10  TIREFINT
11  +0.0
12  TREFEXT
13  +0.0
14  TIREFEXT
15  +0.0
16
17  +0.0
18
19  +0.0
20
21  +0.0
22
23  +0.0
24
25  +0.0
26
------------------------------------------
                                       ./.
```

```
*****************************************************************************************************************
*   WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T              *  86/12/08  *  10:54  *  P A G E  66  *
*****************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                               *  86/08/27 - 00                    *
*****************************************************************************************************************
ASY 11       1.861.080.00  TAPE TRANSPORT D820X                                          <--  <--  <--  CONTINUATION
```

```
GRP 20         1.820.701.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 33
    TO ASSY1, GR80, EL22               P25
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  +0.0
 2  TAD-RESA
 3  +0.0
 4  TAD-RESB
 5  +0.0
 6  TAD-RESC
 7  +0.0
 8  SSDACLK
 9  +0.0
10  SSDAICLK
11  +0.0
12  SSDAMTX
13  +0.0
14  SSDAIMTX
15  +0.0
16  SSDADTR
17  +0.0
18  SSDAIDTR
19  +0.0
20  SSDACTS
21  +0.0
22  SSDAICTS
23  +0.0
24  SSDAMRX
25  +0.0
26  SSDAIMRX
------------------------------------------
                                       ./.
```

```
GRP 20         1.820.701.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 34
    INT. SYNCHRONIZER                  P24
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  TC-SL3
 2  + 0.0
 3  TC-SL4
 4  + 0.0
 5  TC-IRQ
 6  + 0.0
 7  TC-ENBG
 8  + 0.0
 9  TC-RESMP
10  + 0.0
11  + 0.0
12  + 0.0
13  + 0.0
14  + 0.0
15  TC-RW
16  + 0.0
17  TC-ENB
18  + 0.0
19  TC-ADR2
20  + 0.0
21  TC-ADR1
22  + 0.0
23  TC-ADR0
24  + 0.0
25  TC-DATA7
26  + 0.0
27  TC-DATA6
28  + 0.0
29  TC-DATA5
30  + 0.0
31  TC-DATA4
32  + 0.0
33  TC-DATA3
34  + 0.0
35  TC-DATA2
36  + 0.0
37  TC-DATA1
38  + 0.0
39  TC-DATA0
40  + 0.0
------------------------------------------
                                       ./.
```

```
GRP 20         1.820.701.00
           <--  <--  <--  CONTINUATION
==========================================

ELM 40         1.820.759.00
    SPOOLING MOTOR DRIVER              J01
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  AN-ICR
 2  AN-IRR
 3  AN-ICR
 4  AN-IRR
 5
 6
 7  PWMPR-H1
 8  PWMPR-L3
 9  AN-ICRD
10  PWMPR-L6
11
12
13
14
15  TD-PENBR
16
17  TD-C76K
18  +15.0
19  KEY
20  + 5.6
21  + 0.0
22  -15.0
23  TD-PENBL
24
25
26  AN-ICL
27  AN-IRL
28  PWMPL-H1
29  PWMPL-L3
30  AN-ICLD
31  PWMPL-L6
32  PWMPL-L5
33  PWMPL-L4
34  PWMPL-H2
35  PWMPL-L1
36  PWMPR-L5
37  PWMPR-L4
38  PWMPR-H2
39  PWMPR-L1
------------------------------------------
                                       ./.
```

```
*****************************************************************************************************************
*    WILLI STUDER AG   *    L  O  C  A  T  I  O  N    P  I  N    L  I  S  T          *  86/12/08  *  10:54  *   P A G E  67   *
*****************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                          *  86/08/27 - 00                      *
*****************************************************************************************************************
ASY 11        1.861.080.00  TAPE TRANSPORT D820X                                                  <--  <--  <--  CONTINUATION
```

```
GRP 20        1.820.701.00
          <--  <--  <--  CONTINUATION
========================================

ELM 41        1.820.764.00
    CAPSTAN CONTROL UNIT               JC2
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
----------------------------------------
 1  TD-TCM1
 2  TD-TCM2
 3  TC-REFP
 4  TC-CAPDC
 5  TC-TCMVI
 6  TC-CDIRI
 7  TD-CAPSY
 8  TC-REF
 9  TC-INEX
10  TC-RESMP
11  TC-ENBG
12
13  TC-IRQ
14  TC-EREF
15  TC-SL4
16  TC-SL3
17
18  +15.0
19  KEY
20  + 5.6
21  + 0.0
22  -15.0
23  TC-SL2
24  TC-SL1
25
26  TD-CRES
27  TC-RW
28  TC-ENB
29  TC-ADR2
30  TC-ADR1
31  TC-ADR0
32  TC-DATA7
33  TC-DATA6
34  TC-DATA5
35  TC-DATA4
36  TC-DATA3
37  TC-DATA2
38  TC-DATA1
39  TC-DATA0
----------------------------------------
                                      ./.
```

```
GRP 20        1.820.701.00
          <--  <--  <--  CONTINUATION
========================================

ELM 42        1.820.727.00
    CAPSTAN INTERFACE                  J03
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
----------------------------------------
 1A TC-CDIRI
 1B TD-TCM1
 2A TC-TCMVI
 2B TC-TCM2
 3A AN-CSPDC
 3B AN-CSPDC
 4A
 4B TC-REFP
 5A TC-TCMV
 5B TC-TCMV
 6A TC-TCDIR
 6B TC-TCDIR
 7A
 7B
 8A TC-RESMP
 8B TC-ENBG
 9A TC-IRQ
 9B
10A
10B TC-EREF
11A TC-REF
11B T-REFINT
12A TC-INEX
12B T-REFEXT
13A TC-SL1
13B TD-IRQ
14A TC-SL2
14B TD-SL7
15A +15.0
15B +15.0
16A + 5.6
16B + 5.6
17A + 0.0
17B + 0.0
18A -15.0
18B -15.0
19A
19B TD-RES
20A TC-RW
20B TD-RW
21A TC-ENB
21B TD-ENB
22A TC-ADR2
22B
23A TC-ADR1
23B TD-ADR1
24A TC-ADR0
                                      ./.
```

```
GRP 20        1.820.701.00
          <--  <--  <--  CONTINUATION
========================================

ELM 42        1.820.727.00
          <--  <--  <--  CONTINUATION
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
----------------------------------------
24B TD-ADR0
25A TC-DATA7
25B TD-DATA7
26A TC-DATA6
26B TD-DATA6
27A TC-DATA5
27B TD-DATA5
28A TC-DATA4
28B TD-DATA4
29A TC-DATA3
29B TD-DATA3
30A TC-DATA2
30B TD-DATA2
31A TC-DATA1
31B TD-DATA1
32A TC-DATA0
32B TD-DATA0
----------------------------------------
                                      ./.
```

```
*****************************************************************************************************************
*    WILLI STUDER AG   *    L  O  C  A  T  I  O  N    P  I  N    L  I  S  T          *  86/12/08  *  10:54  *   P A G E  68   *
*****************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                          *  86/08/27 - 00                      *
*****************************************************************************************************************
ASY 11        1.861.080.00  TAPE TRANSPORT D820X                                                  <--  <--  <--  CONTINUATION
```

```
GRP 20        1.820.701.00
          <--  <--  <--  CONTINUATION
========================================

ELM 43        1.820.762.00
    TAPE DECK PERIPHERY CONTR.         JC4
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
----------------------------------------
 1A TD-RALEN
 1B TD-RALC1
 2A TD-RALP2
 2B TD-RALC2
 3A TD-RALP1
 3B TD-RARP1
 4A TD-MOVE
 4B TD-RARP2
 5A T-DRES2
 5B TD-RAREN
 6A TD-CRES
 6B TD-RARC1
 7A
 7B TD-RARC2
 8A TD-SHLD
 8B T-IRES2
 9A TD-TRSP
 9B TD-HEACT
10A TD-PWENB
10B T-SUPVON
11A -YSUP
11B
12A +YSUP
12B
13A
13B
14A
14B TD-SL3
15A +15.0
15B +15.0
16A + 5.6
16B + 5.6
17A + 0.0
17B + 0.0
18A -15.0
18B -15.0
19A T-IRES2
19B TD-RES
20A TD-PENBL
20B TD-RW
21A TD-PENBR
21B TD-ENB
22A T-IRES3
22B TD-ADR2
23A T-IRES4
23B TD-ADR1
24A T-IRES5
                                      ./.
```

```
GRP 20        1.820.701.00
          <--  <--  <--  CONTINUATION
========================================

ELM 43        1.820.762.00
          <--  <--  <--  CONTINUATION
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
----------------------------------------
24B TD-ADR0
25A T-IRES6
25B TD-DATA7
26A T-IRES7
26B TD-DATA6
27A OC-RES1
27B TD-DATA5
28A OC-RES2
28B TD-DATA4
29A OC-RES3
29B TD-DATA3
30A OC-RES4
30B TD-DATA2
31A K-BRAKEL
31B TD-DATA1
32A K-BRAKER
32B TD-DATA0
----------------------------------------
                                      ./.
```

```
GRP 20        1.820.701.00
          <--  <--  <--  CONTINUATION
========================================

ELM 44        1.820.761.00
    TAPE DECK COUNTER / TIMER          J05
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
----------------------------------------
 1  TD-TML1
 2  TD-TML2
 3  TD-TMR1
 4  TD-TMR2
 5
 6  TD-ADR3
 7  TD-MOVE1
 8  TD-MOVE2
 9  TD-ICRE1
10
11  TD-ICRE2
12  TD-MVCLK
13  TD-IRQ
14  TD-MVDIR
15
16  TD-ICRE3
17  TD-ICRE4
18  +15.0
19  KEY
20  + 5.6
21  + 0.0
22  -15.0
23  TD-ICRE5
24
25  TD-SL6
26  TD-RES
27  TD-RW
28  TD-ENB
29  TD-ADR2
30  TD-ADR1
31  TD-ADR0
32  TD-DATA7
33  TD-DATA6
34  TD-DATA5
35  TD-DATA4
36  TD-DATA3
37  TD-DATA2
38  TD-DATA1
39  TD-DATA0
----------------------------------------
                                      ./.
```

```
******************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T              * 86/12/08 * 10:54 *  P A G E 69  *
******************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                               * 86/08/27 - 00                    *
******************************************************************************************************************
ASY 11        1.861.080.00  TAPE TRANSPORT D820X                                          <--  <--  <--  CONTINUATION

GRP 20        1.820.701.00                GRP 20        1.820.701.00                GRP 20        1.820.701.00
           <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
======================================    ======================================    ======================================

ELM 45        1.820.760.00                ELM 46        1.820.785.00                ELM 47        1.820.763.00
   SPOOLING MOTOR CONTROLLER       J06       MP-UNIT TD CONTROL              J07       TAPE DECK SERIAL INTERFACE      J08
--------------------------------------    --------------------------------------    --------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE       F    PNT SIGNAL NAME  COLOR LV TYPE       F    PNT SIGNAL NAME  COLOR LV TYPE       F
--------------------------------------    --------------------------------------    --------------------------------------

 1  AN-TTL                                 1  TD-P14B                                1  AN-TTL
 2  AN-TTR                                 2  TD-P15B                                2  AN-TTR
 3  AN-TTL                                 3  TD-SL3                                 3  AN-ICL
 4  AN-TTR                                 4  TD-SL2                                 4  AN-ICR
 5                                         5  TD-RESMP                               5  AN-TTL
 6  AN-IRL                                 6  TD-ADR3                                6  AN-TTR
 7                                         7                                         7  AN-RES1
 8  AN-IRR                                 8  TD-P17B                                8  AN-RES2
 9                                         9  TD-NMI                                 9  AN-RES3
10                                        10  TD-RX                                 10  AN-RES4
11                                        11  TD-TX                                 11  TD-RESMP
12                                        12  TD-P16B                               12  TD-IRQ
13                                        13  TD-IRQ                                13  TDS-RX
14                                        14  T-PWRON                               14  TDS-TX
15                                        15  TD-SL7                                15  TDS-DTR
16                                        16  TD-C76K                               16  TDS-CTS
17                                        17                                        17  TDS-CLK
18  +15.0                                 18                                        18  +15.0
19  KEY                                   19  KEY                                   19  KEY
20  + 5.6                                 20  + 5.6                                 20  + 5.6
21  + 0.0                                 21  + 0.0                                 21  + 0.0
22  -15.0                                 22  TD-C3C7K                              22  -15.0
23  TD-SL4                                23  TD-SL4                                23  TD-RESET
24                                        24  TD-SL5                                24  TD-ADR3
25                                        25  TD-SL6                                25  TD-SL5
26  TD-RES                                26  TD-RESET                              26  TD-RES
27  TD-RW                                 27  TD-RW                                 27  TD-RW
28  TD-ENB                                28  TD-ENB                                28  TD-ENB
29  TD-ADR2                               29  TD-ADR2                               29  TD-ADR2
30  TD-ADR1                               30  TD-ADR1                               30  TD-ADR1
31  TD-ADR0                               31  TD-ADR0                               31  TD-ADR0
32  TD-DATA7                              32  TD-DATA7                              32  TD-DATA7
33  TD-DATA6                              33  TD-DATA6                              33  TD-DATA6
34  TD-DATA5                              34  TD-DATA5                              34  TD-DATA5
35  TD-DATA4                              35  TD-DATA4                              35  TD-DATA4
36  TD-DATA3                              36  TD-DATA3                              36  TD-DATA3
37  TD-DATA2                              37  TD-DATA2                              37  TD-DATA2
38  TD-DATA1                              38  TD-DATA1                              38  TD-DATA1
39  TD-DATA0                              39  TD-DATA0                              39  TD-DATA0
--------------------------------------    --------------------------------------    --------------------------------------
                                   ./.                                       ./.                                       ./.
```

```
******************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T              * 86/12/08 * 10:54 *  P A G E 70  *
******************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                               * 86/08/27 - 00                    *
******************************************************************************************************************
ASY 11        1.861.080.00  TAPE TRANSPORT D820X                                          <--  <--  <--  CONTINUATION

GRP 20        1.820.701.00                GRP 20        1.820.701.00                GRP 20        1.820.701.00
           <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION               <--  <--  <--  CONTINUATION
======================================    ======================================    ======================================

ELM 48        1.820.753.00                ELM 48        1.820.753.00                ELM 49        1.820.766.00
   MASTER SERIAL INTERFACE         J09               <--  <--  <--  CONTINUATION       MP-UNIT MASTER                  J10
--------------------------------------    --------------------------------------    --------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE       F    PNT SIGNAL NAME  COLOR LV TYPE       F    PNT SIGNAL NAME  COLOR LV TYPE       F
--------------------------------------    --------------------------------------    --------------------------------------

 1A TM-DSL4                               24B TM-IRQ                                 1  TM-P14B
 1B TM-ISL4                               25A TD-MVDIR                               2  TM-P15B
 2A TM-DSL5                               25B TD-MVCLK                               3  TM-SL3
 2B TM-ISL5                               26A TM-RESET                               4  TM-SL2
 3A TM-DRES                               26B TM-RW                                  5  TM-RESMP
 3B TM-IRES                               27A TM-ENB                                 6  TM-ADR3
 4A TM-DRW                                27B TM-ADR2                                7
 4B TM-IRW                                28A TM-ADR1                                8  TM-BUSSW
 5A TM-DENB                               28B TM-ADR0                                9  TM-NMI
 5B TM-IENB                               29A TM-DATA7                              10  TM-RX
 6A TM-DADR2                              29B TM-DATA6                              11  TM-TX
 6B TM-IADR2                              30A TM-DATA5                              12  TM-DRENB
 7A TM-DADR1                              30B TM-DATA4                              13  TM-IRQ
 7B TM-IADR1                              31A TM-DATA3                              14  T-PWRON
 8A TM-DADR0                              31B TM-DATA2                              15  TM-SL7
 8B TM-IADR0                              32A TM-DATA1                              16  TM-C76K
 9A TM-SL4                                32B TM-DATA0                              17
 9B TM-SL5                                --------------------------------------    18
10A TDS-RX                                                                   ./.    19  KEY
10B TDS-TX                                                                          20  + 5.6
11A TDS-DTR                                                                         21  + 0.0
11B TDS-CTS                                                                         22  TM-C3C7K
12A SYS-RX                                                                          23  TM-SL4
12B SYS-TX                                                                          24  TM-SL5
13A SYS-DTR                                                                         25  TM-SL6
13B SYS-CTS                                                                         26  TM-RESET
14A TM-SHIR                                                                         27  TM-RW
14B TM-KBIR                                                                         28  TM-ENB
15A +15.0                                                                           29  TM-ADR2
15B +15.0                                                                           30  TM-ADR1
16A + 5.6                                                                           31  TM-ADR0
16B + 5.6                                                                           32  TM-DATA7
17A + 0.0                                                                           33  TM-DATA6
17B + 0.0                                                                           34  TM-DATA5
18A -15.0                                                                           35  TM-DATA4
18B -15.0                                                                           36  TM-DATA3
19A TDS-CLK                                                                         37  TM-DATA2
19B TM-REMIR                                                                        38  TM-DATA1
20A TD-HEACT                                                                        39  TM-DATA0
20B TM-SEIR                                                                         --------------------------------------
21A T-ORES3                                                                                                            ./.
21B TA-AUIR
22A TD-CAPSY
22B TM-SL2
23A TM-RESMP
23B TM-ADR3
24A TM-RES

                                   ./.
```

```
**********************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T              *  86/12/08  *  10:54  *  P A G E  71  *
**********************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                *  86/08/27 - 00                       *
**********************************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                          <--  <--  <--  CONTINUATION
```

```
GRP 20         1.820.701.00
               <--  <--  <--  CONTINUATION
=============================================

ELM 50         1.820.751.00
    SMPTE/EBU INTERFACE                   J11
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1  FRMGND
 2  TRANSCM
 3  TRANSA
 4  TRANSB
 5  RECEIVB
 6  RECEIVA
 7  RECEIVCM
 8  FRMGND
 9  RCV-232
10  TM-RX
11  TM-TX
12  TM-DRENB
13  TM-SEIR
14  SND-232
15  TM-BUSSW
16  TM-SL3
17  TM-ADR3
18  +15.0
19  KEY
20  + 5.0
21  + 0.0
22  -15.0
23  TM-SL4
24  TM-SL5
25  TM-SL6
26  TM-RES
27  TM-RW
28  TM-ENB
29  TM-ADR2
30  TM-ADR1
31  TM-ADR0
32  TM-DATA7
33  TM-DATA6
34  TM-DATA5
35  TM-DATA4
36  TM-DATA3
37  TM-DATA2
38  TM-DATA1
39  TM-DATA0
---------------------------------------------
                                          ./.
```

```
GRP 20         1.820.701.00
               <--  <--  <--  CONTINUATION
=============================================

ELM 51         1.861.721.00
    MASTER SYSCON INTERFACE               J12
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1A T-SADA
 1B T-SACB
 2A T-SADC
 2B T-READSL
 3A T-WRTSL
 3B T-DT-CH1
 4A T-DT-CH2
 4B T-DT-CH3
 5A T-DT-MP
 5B T-DT-RP1
 6A T-DT-RP2
 6B TREFINT
 7A T-DT-SJM
 7B TIREFINT
 8A T-DT-RES
 8B TREFEXT
 9A
 9B TIREFEXT
10A T-REFEXT
10B T-REFINT
11A TA-AUIR
11B
12A
12B
13A
13B
14A TM-SL6
14B
15A
15B
16A +0.0
16B +0.0
17A
17B
18A +5.6
18B +5.6
19A TM-RES
19B
20A TM-RW
20B TAD-RESA
21A TM-ENB
21B TAC-RESB
22A TM-ADR2
22B TAD-RESC
23A TM-ACR1
23B SSDACLK
24A TM-ACR0
                                          ./.
```

```
GRP 20         1.820.701.00
               <--  <--  <--  CONTINUATION
=============================================

ELM 51         1.861.721.00
               <--  <--  <--  CONTINUATION
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
24B SSDAICLK
25A TM-DATA7
25B SSDAMTX
26A TM-DATA6
26B SSDAIMTX
27A TM-DATA5
27B SSDADTR
28A TM-DATA4
28B SSDAIDTR
29A TM-DATA3
29B SSDACTS
30A TM-DATA2
30B SSDAICTS
31A TM-DATA1
31B SSDAMRX
32A TM-DATA0
32B SSDAIMRX
---------------------------------------------

ELM 60
    WIRE FIELD (FROM GRP20, ELM70)
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1  + 0.0         0        L
 2  + 0.0         0        L
 3  + 0.0         0        L
---------------------------------------------

ELM 61
    WIRE FIELD (FROM GRP20, ELM70)
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1  -26.0         9        L
 2  +26.0         1        L
 3  + 0.0         0        L
 4  + 0.0         0        L
 5  +0.0SENS      0        L
 6  + 0.0         0        L
 7  + 0.0         0        L
 8  + 0.0         0        L
 9  -15.0         6        L
10  +15.0         2        L
---------------------------------------------
                                          ./.
```

```
**********************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T              *  86/12/08  *  10:54  *  P A G E  72  *
**********************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                *  86/08/27 - 00                       *
**********************************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                          <--  <--  <--  CONTINUATION
```

```
GRP 20         1.820.701.00
               <--  <--  <--  CONTINUATION
=============================================

ELM 62
    WIRE FIELD
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1  + 5.6         3        L
 2  + 5.6         3        L
 3  +5.6SENS      4        U
 4  +STABSNS      3        U
 5  -STABSNS      5        U
 6  +CAPMOT       2        L
 7  +CAPMOT       2        L
 8  0CAPMOT       4        L
 9  0CAPMOT       4        L
10  +REMSUP       8        U
11  +24.0         7        U
12  +24.0         7        U
13  +24.0         7        U
14  T-PWRON       5        U
15  TD-C76K       9        U
---------------------------------------------

ELM 63
    WIRE FIELD (TO BRAKE SOLENOIDS)
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1  K-BRAKEL      1        U
 2  K-BRAKER      4        U
---------------------------------------------
                                          ./.
```

```
GRP 20         1.820.701.00
               <--  <--  <--  CONTINUATION
=============================================

ELM 70
    FROM GRP21, ELM01                     J13
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1  + 5.6         3        F
 2  + 5.6         3        F
 3  +5.6SENS      4        F
 4  TD-C76K       9        F
 5  + 0.0         0        F
 6  + 0.0         0        F
 7  T-PWRON       5        F
 8  + 0.0         0        F
 9  + 0.0         0        F
10  + 0.0         0        F
11  +15.0         2        F
12  -15.0         6        F
13  + 0.0         0        F
14  + 0.0         0        F
15  +24.0         7        F
16  +REMSUP       8        F
17  +STABSNS      3        F
18  -STABSNS      5        F
19  -26.0         9        F
20  +26.0         1        F
21  + 0.0         0        F
22  +0.0SENS      0        F
23  0CAPMOT       4        F
24  +CAPMOT       2        F
---------------------------------------------

ELM 71
    TO CAPSTAN MOTOR DRIVE AMP.
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1  0CAPMOT       4        F
 2
 3
 4
 5
 6  +CAPMOT       2        F
---------------------------------------------

ELM 72
    TO BRAKE SOLENOID, LEFT
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1  +24.0         7        F
 2  K-BRAKEL      1        F
 3
---------------------------------------------
                                          ./.
```

```
GRP 20         1.820.701.00
               <--  <--  <--  CONTINUATION
=============================================

ELM 73
    TO BRAKE SOLENOID, RIGHT
---------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE              F
---------------------------------------------
 1  +24.0         7        F
 2  K-BRAKER      4        F
 3
---------------------------------------------
```

```
***********************************************************************************************************************
*    WILLI STUDER AG   *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T            *  86/12/08  *  10:54  *   P A G E  73   *
***********************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                    *
***********************************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                             <--  <--  <--  CONTINUATION
```

```
GRP 25
   REMOTE CONTROL PANEL
=========================================

ELM  1
   CONN. AUTOLOCATOR, REMOTE TIMER   J01
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1  SHIELD                B
 2                        B
 3  TR-A                  B
 4  KEY                   B
 5  + 0.0                 B
 6                        B
 7  TR-B                  B
 8  SIGN.GND              B
 9  +REMSUP                B
-----------------------------------------

ELM  2
   CONNECTOR SYNCHRONIZER            J02
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1  + 0.0                 B
 2  BR-REW                B
 3  BR-FORW               B
 4  BR-VRSPD              B
 5  SR-VRSPD              B
 6  SR-REHSL              B
 7  OR-MVCLK              B
 8  KEY/CDIR              B
 9  BR-REC                B
10  OR-MVDIR              B
11  OR-CMCLK              B
12  OR-SYENB              B
13  IR-REFEX              B
14  + 0.0                 B
15  BR-PLAY               B
16  BR-STOP               B
17  SR-LIFT               B
18  SR-MUTE               B
19  SR-REC                B
20  SR-REW                B
21  SR-FORW               B
22  SR-PLAY               B
23  SR-STOP               B
24  KEY                   B
25  +24.0REM              B
-----------------------------------------
                                      ./.
```

```
GRP 25
              <--  <--  <--  CONTINUATION
=========================================

ELM  3
   CONN. PARALLEL REMOTE CONTROL     J03
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1  + 0.0                 B
 2  BR-REW                B
 3  BR-FORW               B
 4  BR-VRSPD              B
 5  SR-VRSPD              B
 6  SR-FADRY              B
 7  BR-LOCST              B
 8  BR-FADRY              B
 9  BR-REC                B
10  SR-RESET              B
11  FAD1                  B
12  FAD2                  B
13  IR-REFEX              B
14  SR-OLOC               B
15  BR-PLAY               B
16  BR-STOP               B
17  SR-LIFT               B
18  SR-LOCST              B
19  SR-REC                B
20  SR-REW                B
21  SR-FORW               B
22  SR-PLAY               B
23  SR-STOP               B
24  KEY                   B
25  +24.0REM              B
-----------------------------------------

ELM  4
   CONNECTOR SMPTE/EBU BUS           J04
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1  FRMGND                B
 2  TRANSA                B
 3  RECEIVB               B
 4  RECEIVCM              B
 5  SPARE                 B
 6  TRANSCM               B
 7  TRANSB                B
 8  RECEIVA               B
 9  FRMGND                B
-----------------------------------------
                                      ./.
```

```
GRP 25
              <--  <--  <--  CONTINUATION
=========================================

ELM  5
   CONNECTOR SMPTE/EBU BUS           J05
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1  FRMGND                B
 2  TRANSA                B
 3  RECEIVB               B
 4  RECEIVCM              B
 5  SPARE                 B
 6  TRANSCM               B
 7  TRANSB                B
 8  RECEIVA               B
 9  FRMGND                B
-----------------------------------------
```

```
***********************************************************************************************************************
*    WILLI STUDER AG   *    L  O  C  A  T  I  O  N     P  I  N     L  I  S  T            *  86/12/08  *  10:54  *   P A G E  74   *
***********************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                    *
***********************************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                             <--  <--  <--  CONTINUATION
```

```
GRP 26         1.820.729.00
   SERIAL REMOTE INTERFACE
=========================================

ELM  1
   FROM GRP27, ELM01                 P01
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1  + 0.0
 2  + 5.0
 3  +REMSUP
 4  T-RL0
 5  T-RL1
 6  T-SL3
 7  T-A3
 8  T-B0
 9  T-A1
10  T-A2
11  T-B3
12  T-A0
13  T-B1
14  T-B2
15  T-B0
16  T-SL0
17  T-SL1
18  T-RL7
19  T-RL6
20  T-OE
21  T-SL2
22  T-RL5
23  T-RL4
24  T-RESET
25  T-RL3
26  T-RL2
-----------------------------------------

ELM  2
   TO GRP25, ELM01                   P02
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1  SHIELD
 2
 3
 4  TR-B
 5  TR-A
 6  SIGN.GND
 7  KEY
 8  +REMSUP
 9  + 0.0
10
-----------------------------------------
```

```
GRP 27         1.820.738.00
   PARALLEL REMOTE INTERFACE
=========================================

ELM  1
   TO GRP26, ELM01                   P01
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1  + 0.0
 2  + 5.0
 3  +REMSUP
 4  T-RL0
 5  T-RL1
 6  T-SL3
 7  T-A3
 8  T-B0
 9  T-A1
10  T-A2
11  T-B3
12  T-A0
13  T-B1
14  T-B2
15  T-B0
16  T-SL0
17  T-SL1
18  T-RL7
19  T-RL6
20  T-OE
21  T-SL2
22  T-RL5
23  T-RL4
24  T-RESET
25  T-RL3
26  T-RL2
-----------------------------------------
                                      ./.
```

```
GRP 27         1.820.738.00
              <--  <--  <--  CONTINUATION
=========================================

ELM  2
   FROM GRP20, ELM16                 P02
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
-----------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +REMSUP
 6  +REMSUP
 7  TM-OSL5
 8  TM-ISL5
 9  TM-ORES
10  TM-IRES
11  TM-ORW
12  TM-IRW
13  TM-OENB
14  TM-IENB
15  T-REFEXT
16  0.0 VCU
17  TC-TCMV
18  TC-TCDIR
19  TM-OADRO
20  TM-IADRO
21  TM-REMIR
22  0.0 VCU
23  TD-MVCLK
24  TD-MVDIR
25  TM-DATA7
26  0.0 VCU
27  TM-DATA6
28  0.0 VCU
29  TM-DATA5
30  0.0 VCU
31  TM-DATA4
32  0.0 VCU
33  TM-DATA3
34  0.0 VCU
35  TM-DATA2
36  0.0 VCU
37  TM-DATA1
38  0.0 VCU
39  TM-DATA0
40  0.0 VCU
-----------------------------------------
                                      ./.
```

```
************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I O N    P I N    L I S T               *  86/12/08  *  10:54  *   P A G F  75   *
************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                               *  86/08/27 - 00                          *
************************************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPORT D820X                                             <--  <--  <--  CONTINUATION
```

```
GRP 27          1.820.738.00
               <--  <--  <--  CONTINUATION
===========================================

ELM  3
    TO CONNECTOR SYNCHRONIZER          P03
-------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
-------------------------------------------
 1  + 0.0
 2  + 0.0
 3  BR-REW
 4  BR-PLAY
 5  BR-FORW
 6  BR-STOP
 7  BR-VRSPD
 8  SR-LIFT
 9  SR-VRSPD
10  SR-MUTE
11  SR-REHSL
12  SR-REC
13  OR-MVCLK
14  SR-REW
15  KEY/CDIR
16  SR-FORW
17  BR-REC
18  SR-PLAY
19  OR-MVDIR
20  SR-STOP
21  OR-CMCLK
22  KEY
23  OR-SYENB
24  +24.0REM
25  IR-REFEX
26
-------------------------------------------
                                       ./.
```

```
GRP 27          1.820.738.00
               <--  <--  <--  CONTINUATION
===========================================

ELM  4
    TO CONN. PARALLEL REMOTE CONTR.  P04
-------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
-------------------------------------------
 1  + 0.C
 2  SR-OLCC
 3  BR-REW
 4  BR-PLAY
 5  BR-FORW
 6  BR-STOP
 7  BR-VRSPD
 8  SR-LIFT
 9  SR-VRSPD
10  SR-LOCST
11  SR-FADRY
12  SR-REC
13  BR-LOCST
14  SR-REW
15  BR-FADRY
16  SR-FORW
17  BR-REC
18  SR-PLAY
19  SR-RESET
20  SR-STOP
21  FAD1
22  KEY
23  FAD2
24  +24.0REM
25  IR-REFEX
26
-------------------------------------------

ELM  5
                                       P05
-------------------------------------------
PNT SIGNAL NAME  CCLCR LV TYPE           F
-------------------------------------------
 1  GND                   Y
-------------------------------------------
```

```
GRP 30          1.820.775.00
    SPOOLING MOTOR DRIVE AMPLIFIER RIGHT
===========================================

ELM  1
    FROM GRP31. ELM01                  J01
-------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPF           F
-------------------------------------------
 1                         M
 2  -PSVTMOT               M
 3  +PSVTMOT               M
 4                         M
 5  -PSVTMOT               M
 6  +PSVTMOT               M
 7  + 0.0                  M
 8  -PSVTMOT               M
 9  +PSVTMOT               M
10                         M
11  -PSVTMOT               M
12  +PSVTMOT               M
-----------------------------------     --

ELM  2
    FROM GRP20. ELM02                  PU.
-------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPF           F
-------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  PWMPR-L1
 8  PWMPR-L2
 9  PWMPR-H1
10  PWMPR-H2
11  PWMPR-L3
12  PWMPR-L4
13  AN-ICRD
14  PWMPR-L5
15  PWMPR-L6
16  + 0.0
-------------------------------------------

ELM  3
                                       P02
-------------------------------------------
PNT SIGNAL NAME  CCLOR LV TYPF           F
-------------------------------------------
 1  +VMOTRHT               J
 2  -VMOTRHT               J
-------------------------------------------
```

```
************************************************************************************************************************
*    WILLI STUDER AG    *    L O C A T I C N    P I N    L I S T               *  86/12/08  *  10:54  *   P A G F  76   *
************************************************************************************************************************
*               1.861.022.00  D820X PCM RECCRDER                               *  86/08/27 - 00                          *
************************************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPCRT D820X                                             <--  <--  <--  CONTINUATICN
```

```
GRP 31          1.820.777.00
    SPOOLING MOTOR SUPPLY
===========================================

ELM  1
    OUTPUT                             P01
-------------------------------------------
PNT SIGNAL NAME  CCLOR LV TYPE           F
-------------------------------------------
 1  +PSVTMOT               M
 2  +PSVTMOT               M
 3  +PSVTMOT               M
 4  +PSVTMOT               M
 5  +PSVTMOT               M
 6  +PSVTMOT               M
 7  +PSVTMOT               M
 8  +PSVTMOT               M
 9  -PSVTMOT               M
10  -PSVTMOT               M
11  -PSVTMOT               M
12  -PSVTMOT               M
13  -PSVTMOT               M
14  -PSVTMOT               M
15  -PSVTMOT               M
16  -PSVTMOT               M
17                         M
18                         M
19                         M
20                         M
21  + 0.0                  M
22  + 0.0                  M
23                         M
24                         M
-------------------------------------------

ELM  2
    FROM GRP08. ELM05                  J01
-------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
-------------------------------------------
 1  ACPWM-A1               F
 2  ACPWM-A3               F
 3  ACPWM-A5               F
 4  ACPWM-A2               F
 5  ACPWM-A4               F
 6  ACPWM-A6               F
 7  ACPWM-B1               M
 8  ACPWM-B2               M
 9  ACPWM-B3               M
10  ACPWM-B4               M
11  ACPWM-B5               M
12  ACPWM-B6               M
-------------------------------------------
                                       ./.
```

```
GRP 31          1.820.777.C0
               <--  <--  <--  CONTINUATION
===========================================

ELM  3
    FROM GRP20. ELM05                  P02
-------------------------------------------
PNT SIGNAL NAME  CCLCR LV TYPE           F
-------------------------------------------
 1  + 0.C
 2  + 0.C
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.C
 7  TC-C307K
 8  TD-PWENB
 9  +YSUP
10  -YSUP
11
12
13
14
15
16
-------------------------------------------

ELM  4
    CONNECTCR TO CAPACITCR (GRP34)     P03
-------------------------------------------
PNT SIGNAL NAME  COLCR LV TYPE           F
-------------------------------------------
 1  +PSVTMOT               F
 2  +PSVTMOT               F
 3  +PSVTMOT               F
 4  -PSVTMOT               F
 5  -PSVTMOT               F
 6  -PSVTMOT               F
-------------------------------------------
```

```
GRP 32          1.82C.790.00
    SWITCHING STABILIZER
===========================================

ELM  1
    INPUT FROM GRP12. ELM05            J01
-------------------------------------------
PNT SIGNAL NAMF  CCLOR LV TYPF           F
-------------------------------------------
 1  +STABIN                F
 2  + 0.0                  F
 3  + 0.0                  F
 4  +STABIN                F
 5  + 0.0                  F
 6  -STABIN                F
 7  +CAPMOT                F
 8
 9  OCAPMOT                F
10  ACPWE-C1               F
11
12  ACPWE-B1               F
-------------------------------------------

ELM  2
    OUTPUT                             P01
-------------------------------------------
PNT SIGNAL NAMF  CCLCR LV TYPF           F
-------------------------------------------
 1  + 5.6                  M
 2  + 5.6                  M
 3  +5.6SENS               M
 4  TD-C76K                M
 5  + 0.0                  M
 6  + 0.0                  M
 7  T-PWRON                M
 8  + 0.0                  M
 9  + 0.0                  M
10  + 0.0                  M
11  +15.0                  M
12  -15.0                  M
13  + 0.0                  M
14  + 0.0                  M
15  +24.0                  M
16  +REMSUP                M
17  +STABSNS               M
18  -STABSNS               M
19  -26.0                  M
20  +26.0                  M
21  + 0.0                  M
22  +0.0SENS               M
23  OCAPMOT                M
24  +CAPMOT                M
-------------------------------------------
```

```
*****************************************************************************************************
*    WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T        * 86/12/08  *  10:54  *   P A G E  77   *
*****************************************************************************************************
*              1.861.022.00  D820X PCM RECCRDER                         * 86/08/27 - 00                         *
*****************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPORT D820X                                <--  <--  <--  CONTINUATION
```

```
GRP 33          1.820.775.00
    SPOOLING MOTOR DRIVE AMPLIFIER LEFT
==========================================

ELM  1
    FROM GRP31, ELM01                  J01
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1                         M
 2  -PSVTMOT               M
 3  +PSVTMOT               M
 4                         M
 5  -PSVTMOT               M
 6  +PSVTMOT               M
 7  + 0.0                  M
 8  -PSVTMOT               M
 9  +PSVTMOT               M
10                         M
11  -PSVTMOT               M
12  +PSVTMOT               M
------------------------------------------

ELM  2
    FROM GRP20, ELM01                  P01
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  PWMPL-L1
 8  PWMPL-L2
 9  PWMPL-H1
10  PWMPL-H2
11  PWMPL-L3
12  PWMPL-L4
13  AN-ICLD
14  PWMPL-L5
15  PWMPL-L6
16  + 0.0
------------------------------------------

ELM  3
                                       P02
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  +VMOTLFT               J
 2  -VMOTLFT               J
------------------------------------------
```

```
GRP 34              59.26.6223
    CAPACITOR, BELONGING TO GRP 31
==========================================

ELM  1
    CAPACITOR
------------------------------------------
PNT SIGNAL NAME  CCLCR LV TYPE           F
------------------------------------------
 1A +PSVTMOT      2        L
 1B +PSVTMOT      2        L
 1C +PSVTMOT      2        L
 2A -PSVTMOT      6        L
 2B -PSVTMOT      6        L
 2C -PSVTMOT      6        L
------------------------------------------

ELM  2
    CONNECTOR (FRCM GRP31)             J01
------------------------------------------
PNT SIGNAL NAME  CCLOR LV TYPE           F
------------------------------------------
 1  +PSVTMOT      2        M
 2  +PSVTMOT      2        M
 3  +PSVTMOT      2        M
 4  -PSVTMOT      6        M
 5  -PSVTMOT      6        M
 6  -PSVTMOT      6        M
------------------------------------------
```

```
GRP 36          1.820.190.00
    TORQUE MOTOR, LEFT
==========================================

ELM  1          1.820.771.00
    TACHO SENSOR                       P01
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  AN-RES1
 8  TD-TML2
 9  TD-TML1
10
------------------------------------------

ELM  2
    FROM GRP33, ELM 03
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  +VMOTLFT      2
 2  -VMOTLFT      0
------------------------------------------
```

```
*****************************************************************************************************
*    WILLI STUDER AG   *    L C C A T I C N    P I N    L I S T        * 86/12/08  *  10:54  *   P A G E  78   *
*****************************************************************************************************
*              1.861.022.00  D820X PCM RECCRDER                         * 86/08/27 - 00                         *
*****************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPORT D820X                                <--  <--  <--  CONTINUATION
```

```
GRP 37          1.820.190.00
    TORQUE MOTOR, RIGHT
==========================================

ELM  1          1.820.771.00
    TACHO SENSOR                       P01
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +15.0
 6  -15.0
 7  AN-RES2
 8  TD-TMR2
 9  TD-TMR1
10
------------------------------------------

ELM  2
    FROM GRP30, ELM 03
------------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE           F
------------------------------------------
 1  +VMOTRHT      2
 2  -VMOTRHT      0
------------------------------------------
```

```
GRP 38          1.021.695.00
    CAPSTAN MOTOR (ELECTRONICS BOARD)
==========================================

ELM  1
    FROM GRP39, ELM02                  J01
------------------------------------------
PNT SIGNAL NAME  CCLCR LV TYPE           F
------------------------------------------
 1  CPHASE-R      2        F
 2  CPHASE-T      9        F
 3  CPHASE-S      0        F
 4  TC-HALL1               F
 5
 6  +15.0                  F
 7  TC-HALL2               F
 8  TD-TCM1                F
 9  + 5V                   F
10  TC-HALL3               F
11  TD-TCM2                F
12  + 0.0                  F
------------------------------------------

ELM  2          1.021.696.00
    TACHC SENSOR UNIT (WIRE FIELD)
------------------------------------------
PNT SIGNAL NAME  CCLCR LV TYPE           F
------------------------------------------
 1                3        U
 2                4        U
 3                5        U
 4                6        U
------------------------------------------

ELM  3          1.021.697.00
    HALL SENSOR BOARD (WIRE FIELD)
------------------------------------------
PNT SIGNAL NAME  CCLCR LV TYPE           F
------------------------------------------
 1                0        U
 2                2        U
 3                3        U
 4                4        U
 5                5        U
 6                6        U
 7                7        U
 8                8        U
------------------------------------------
                                       ./.
```

```
GRP 38          1.021.695.00
                <--  <--  <--  CONTINUATION
==========================================

ELM  4
    STATOR (WIRE FIELD)
------------------------------------------
PNT SIGNAL NAME  CCLOR LV TYPE           F
------------------------------------------
 1  CPHASE-R      2        L
 2  CPHASE-S      0        L
 3  CPHASE-T      9        L
------------------------------------------

ELM  5
    GROUND CONNECTION (WIRE FIELD)
------------------------------------------
PNT SIGNAL NAME  CCLOR LV TYPF           F
------------------------------------------
 1  GND           0        L
------------------------------------------
```

```
*******************************************************************************************************
*   WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T          *  86/12/08  *  10:54  *   P A G E  79   *
*******************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                          *  86/08/27 - 00                    *
*******************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                   <--  <--  <--  CONTINUATION

GRP 39        1.820.774.00                 GRP 39        1.820.774.00                GRP 40        1.080.230.00
    CAPSTAN MOTOR DRIVE AMPLIFIER                        <--  <--  <--  CONTINUATION      BRAKE ASSEMBLY. LEFT
=========================================  ========================================  ========================================

ELM  1                                     ELM  3                                    ELM  1
    FROM GRP20, ELM03                 P01       FRCM GRP20. ELM71               P03       BRAKE SOLENOID
-----------------------------------------  ----------------------------------------  ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F  PNT SIGNAL NAME  CCLCR LV TYPE         F  PNT SIGNAL NAME  CCLOR LV TYPE         F
-----------------------------------------  ----------------------------------------  ----------------------------------------
 1  + 0.0                                   1  OCAPMCT               M                1  +24.0          7     M
 2  + 0.0                                   2                                         2  K-BRAKEL       1     M
 3  + 5.6                                   3                                         3
 4  + 5.6                                   4                                        ----------------------------------------
 5  +15.0                                   5
 6  -15.0                                   6  +CAPMCT               M
 7  AN-CSPDC                               ----------------------------------------
 8  TD-TCM1
 9  + 0.0
10  TD-TCM2
11  T-SPDSL1
12  T-SPDSL2
13  TC-CPREF
14  TC-CAPDC
15  TD-C76K
16  + 0.0
-----------------------------------------

ELM  2
    TO GRP38, ELM01                   P02
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  CPHASE-R                M
 2  CPHASE-T                M
 3  CPHASE-S                M
 4  TC-HALL1                M
 5  -15.0                   M
 6  +15.0                   M
 7  TC-HALL2                M
 8  TD-TCM1                 M
 9  + 5V                    M
10  TC-HALL3                M
11  TD-TCM2                 M
12  + 0.0                   M
-----------------------------------------
                                      ./.
```

```
*******************************************************************************************************
*   WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T          *  86/12/08  *  10:54  *   P A G E  80   *
*******************************************************************************************************
*              1.861.022.00  D820X PCM RECCRDER                          *  86/08/27 - 00                    *
*******************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                   <--  <--  <--  CONTINUATICN

GRP 41        1.080.240.00                 GRP 42        1.820.772.00                GRP 43        1.820.772.00
    BRAKE ASSEMBLY, RIGHT                      TAPE TENSION SENSOR. LEFT                 TAPE TENSION SENSCR. RIGHT
=========================================  ========================================  ========================================

ELM  1                                     ELM  1                                    ELM  1
    BRAKE SOLENOID                             FROM GRP20. ELM12                P01       FROM GRP20. ELM13               P01
-----------------------------------------  ----------------------------------------  ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F  PNT SIGNAL NAME  CCLCR LV TYPE         F  PNT SIGNAL NAME  CCLCR LV TYPE         F
-----------------------------------------  ----------------------------------------  ----------------------------------------
 1  +24.0          7        M               1  + 0.0                                  1  + 0.0
 2  K-BRAKER       4        M               2  + 0.0                                  2  + 0.0
 3                                          3  + 5.6                                  3  + 5.6
-----------------------------------------   4  + 5.6                                  4  + 5.6
                                            5  +15.0                                  5  +15.0
                                            6  -15.0                                  6  -15.0
                                            7                                         7
                                            8                                         8
                                            9  AN-TTL                                 9  AN-TTR
                                           10                                        10
                                           ----------------------------------------  ----------------------------------------
```

```
*******************************************************************************************************
*   WILLI STUDER AG   *    L O C A T I O N    P I N    L I S T          *  86/12/08  *  10:54  *   P A G E  81   *
*******************************************************************************************************
*              1.861.022.00  D820X PCM RECCRDER                          *  86/08/27 - 00                    *
*******************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                   <--  <--  <--  CONTINUATION

GRP 44        1.820.793.00                 GRP 45        1.820.770.00                GRP 46        1.820.773.00
    OPTO SENSOR                                MCVE SENSOR                               TAPE LIFTER CONTROL. LEFT
=========================================  ========================================  ========================================

ELM  1                                     ELM  1                                    ELM  1
    FROM GRP20, ELM06                 P01       FROM GRP20. ELM11               P01       FROM GRP20. ELM07               P01
-----------------------------------------  ----------------------------------------  ----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F  PNT SIGNAL NAME  CCLCR LV TYPE         F  PNT SIGNAL NAME  CCLOR LV TYPE         F
-----------------------------------------  ----------------------------------------  ----------------------------------------
 1  + 0.0                                   1  + 0.0                                  1  + 0.0
 2  + 0.0                                   2  + 0.0                                  2  + 0.0
 3  + 5.6                                   3  + 5.6                                  3  + 5.6
 4  + 5.6                                   4  + 5.6                                  4  + 5.6
 5  +15.0                                   5  +15.0                                  5  +26.0
 6  -15.0                                   6  -15.0                                  6  -26.0
 7  TD-YTRSP                                7  AN-RES3                                7
 8  TD-SHLD                                 8  TD-MCVE2                               8
 9  TD-TRSP                                 9  TD-MCVE1                               9
10  TD-TRSPR                               10                                        10
-----------------------------------------  ----------------------------------------  11  TD-RALP1
                                                                                     12  TD-RALC2
                                                                                     13  TD-RALP2
                                                                                     14  TD-RALC1
                                                                                     15  TD-RALFN
                                                                                     16
                                                                                     ----------------------------------------
```

```
*******************************************************************************************************************************
*     WILLI STUDER AG    *     L  O  C  A  T  I  O  N     P  I  N     L  I  S  T          *  86/12/08  *  10:54  *   P A G E  82   *
*******************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                          *  86/08/27 - 00                     *
*******************************************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPORT D820X                                             <--  <--  <--  CONTINUATION

GRP 47          1.820.773.00
    TAPE LIFTER CONTROL, RIGHT
========================================

ELM  1
    FROM GRP20, ELM08                 P01
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +26.0
 6  -26.0
 7
 8
 9
10
11  TD-RARP1
12  TD-RARC2
13  TD-RARP2
14  TD-RARC1
15  TD-RAREN
16
----------------------------------------

GRP 48          1.820.240.00
    PUSHBUTTON ASSEMBLY
========================================

ELM  1
    FROM GRP50, ELM03
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +24.0L
 6  BM-0.2
 7  BM-0.3
 8  BM-0.4
 9  BM-0.5
10  BM-0.6
11  BM-0.7
12  TM-EN0
13  TM-RL7
14  TM-RL6
15  TM-RL5
16  TM-RL4
17  TM-RL3
18  TM-RL2
19  TM-RL1
20  TM-CUE1
21
22  TM-CUE2
23
24  ANM-SH3
25  ANM-SH2
26  ANM-SH1
----------------------------------------

ELM  2
    CONNECTOR EDIT ASSEMBLY
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.0
 4  TM-EN0
 5  TM-CUE1
 6  TM-RL1
 7  TM-CUE2
 8  ANM-SH1
 9  ANM-SH3
10  ANM-SH2
----------------------------------------
                                      ./.

GRP 48          1.820.240.00
                      <--  <--  <--  CONTINUATION
========================================

ELM  3
    WIRE FIELD
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  +24.0L
 2  +24.0L
 3  BM-0.7
 4  BM-0.6
 5  BM-0.5
 6  BM-0.4
 7  BM-0.3
 8  BM-0.2
 9
10
----------------------------------------
```

```
*******************************************************************************************************************************
*     WILLI STUDER AG    *     L  O  C  A  T  I  O  N     P  I  N     L  I  S  T          *  86/12/08  *  10:54  *   P A G E  83   *
*******************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                          *  86/08/27 - 00                     *
*******************************************************************************************************************************
ASY 11          1.861.080.00  TAPE TRANSPORT D820X                                             <--  <--  <--  CONTINUATION

GRP 49          1.820.250.00
    EDIT ASSEMBLY
========================================

ELM  1
    FROM GRP48, ELM02
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.0
 4  TM-EN0
 5  TM-CUE1
 6  TM-RL1
 7  TM-CUE2
 8  ANM-SH1
 9  ANM-SH3
10  ANM-SH2
----------------------------------------

ELM  2
    WIRE FIELD
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  + 5.0
 2  TM-EN0
 3
 4  TM-RL1
 5  + 0.0
----------------------------------------

GRP 50          1.820.768.00
    TAPE DECK DISPLAY DRIVER
========================================

ELM  1
    FROM GRP20, ELM15                 P01
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +24.0
 6  +24.0
 7  TM-DSL4
 8  TM-ISL4
 9  TM-DRES
10  TM-IRES
11  TM-DRW
12  TM-IRW
13  TM-DENB
14  TM-IENB
15  TM-DADR2
16  TM-IADR2
17  TM-DADR1
18  TM-IADR1
19  TM-DADR0
20  TM-IADR0
21  TM-SHIR
22  0.0 VCU
23  TM-KBIR
24  0.0 VCU
25  TM-DATA7
26  0.0 VCU
27  TM-DATA6
28  0.0 VCU
29  TM-DATA5
30  0.0 VCU
31  TM-DATA4
32  0.0 VCU
33  TM-DATA3
34  0.0 VCU
35  TM-DATA2
36  0.0 VCU
37  TM-DATA1
38  0.0 VCU
39  TM-DATA0
40  0.0 VCU
----------------------------------------
                                      ./.

GRP 50          1.820.768.00
                      <--  <--  <--  CONTINUATION
========================================

ELM  2
    CONNECTOR COMMAND UNIT            P03
----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE         F
----------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5
 6  TM-EN4
 7  TM-EN3
 8  TM-EN2
 9  TM-EN1
10  TM-RL6
11  TM-RL7
12  TM-RL0
13  TM-RL1
14  TM-RL2
15  TM-RL3
16  TM-RL4
17  TM-RL5
18  TM-B
19  TM-DP
20  TM-A
21  TM-C
22  TM-D
23  TM-F
24  TM-E
25  TM-G
26  TM-D9
27  TM-D8
28  TM-D7
29  TM-D6
30  TM-D5
31  TM-D4
32  TM-D3
33  TM-D2
34  TM-D1
35  TM-D0
36  TM-L2
37  TM-L1
38  TM-L3
39
40
----------------------------------------
                                      ./.
```

```
****************************************************************************************************
*    WILLI STUDER AG   *    L O C A T I O N   P I N   L I S T              *  86/12/08  * 10:54 *  P A G E  84  *
****************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                            *  86/08/27 - 00                  *
****************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                 <--  <--  <--  CONTINUATION
```

```
GRP 50         1.820.768.00
           <--  <--  <--  CONTINUATION
=========================================

ELM  3
   CONNECTOR PUSHBUTTON ASSEMBLY     P02
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5  +24.0L
 6  BM-0.2
 7  BM-0.3
 8  BM-0.4
 9  BM-0.5
10  BM-0.6
11  BM-0.7
12  TM-ENO
13  TM-RL7
14  TM-RL6
15  TM-RL5
16  TM-RL4
17  TM-RL3
18  TM-RL2
19  TM-RL1
20  TM-CUE1
21
22  TM-CUE2
23
24  ANM-SH3
25  ANM-SH2
26  ANM-SH1
-----------------------------------------
                                      ./.
```

```
GRP 50         1.820.768.00
           <--  <--  <--  CONTINUATION
=========================================

ELM  4
   CONNECTOR LCD DISPLAY UNIT        P04
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  + 0.0
 2  + 5.0
 3  TL-CS
 4  TL-ENB
 5  TL-WR
 6  TL-A0
 7  TL-D0
 8  TL-D1
 9  TL-D2
10  TL-D3
11  TL-D4
12  TL-D5
13  TL-D6
14  TL-D7
15  TL-RESET
16   0.0
-----------------------------------------
```

```
GRP 51         1.870.230.00
   COMMAND UNIT
=========================================

ELM  1
   FROM GRP50.ELM02
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  + 0.0
 2  + 0.0
 3  + 5.6
 4  + 5.6
 5
 6  TM-EN4
 7  TM-EN3
 8  TM-EN2
 9  TM-EN1
10  TM-RL6
11  TM-RL7
12  TM-RL0
13  TM-RL1
14  TM-RL2
15  TM-RL3
16  TM-RL4
17  TM-RL5
18  TM-B
19  TM-DP
20  TM-A
21  TM-C
22  TM-D
23  TM-F
24  TM-E
25  TM-G
26  TM-D9
27  TM-D8
28  TM-D7
29  TM-D6
30  TM-D5
31  TM-D4
32  TM-D3
33  TM-D2
34  TM-D1
35  TM-D0
36  TM-L2
37  TM-L1
38  TM-L3
39
40
-----------------------------------------
```

```
****************************************************************************************************
*    WILLI STUDER AG   *    L O C A T I O N   P I N   L I S T              *  86/12/08  * 10:54 *  P A G E  85  *
****************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                            *  86/08/27 - 00                  *
****************************************************************************************************
ASY 11         1.861.080.00  TAPE TRANSPORT D820X                                 <--  <--  <--  CONTINUATION
```

```
GRP 52         1.820.233.00
   LCD DISPLAY UNIT
=========================================

ELM  1
   FROM GRP50, ELM04
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  + 0.0
 2  + 5.0
 3  TL-CS
 4  TL-ENB
 5  TL-WR
 6  TL-A0
 7  TL-D0
 8  TL-D1
 9  TL-D2
10  TL-D3
11  TL-D4
12  TL-D5
13  TL-D6
14  TL-D7
15  TL-RESET
16   0.0
-----------------------------------------
```

```
GRP 59         1.820.737.00
   FUSE/SUPPLY FAILURE DETECTOR
=========================================

ELM  1
   FROM GRP20, ELM14                 P01
-----------------------------------------
PNT SIGNAL NAME  COLOR LV TYPE          F
-----------------------------------------
 1  +CAPMOT
 2  +CAPMCT
 3
 4  +24.0
 5  -STABSNS
 6  T-SUPVON
 7  +STABSNS
 8  +STABSNS
 9  + 5.6
10  + 5.6
11  + 0.0
12  + 0.0
13  -15.0
14  +15.0
15  +26.0
16  -26.0
-----------------------------------------
```

```
****************************************************************************************************************
*    WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T          * 86/12/08  *  10:54  *  P A G E  86   *
****************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                       * 86/08/27 - 00                  *
****************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  --------------  ------------------------------------  ---------  -------------
 0.0                     11  50   4  16                          CONNECTOR LCD DISPLAY UNIT       P04
                         11  52   1  16                          FROM GRP50. ELM04
------------  -----  --  ---------------  -  --  --------------  ------------------------------------  ---------  -------------
+ 0.0           0        11  11   1   4          L               RECTIFIER                       DZ01                  70.01.0231
                0        11  11   2   3          L               RECTIFIER                       DZ02                  70.01.0231
                0        11  12   1   2          L               CAPACITOR                        C01                  59.26.7103
                0        11  12   2   2          L               CAPACITOR                        C02                  59.26.7103
                0        11  12   3   1          L               CAPACITOR                        C03                  59.26.7103
                0        11  12   5   2          M               CONNECTOR TO GRP32. ELM01        P01
                0        11  12   5   3          M               CONNECTOR TO GRP32. ELM01        P01
                0        11  12   5   5          M               CONNECTOR TO GRP32. ELM01        P01
                4        11  18   1  21          F               FROM GRP31. ELM01                J01
                4        11  18   1  22          F               FROM GRP31. ELM01                J01
                4        11  18   2   7          F               TO GRP33. ELM01                  P01
                4        11  18   3   7          F               TO GRP30. ELM01                  P02
                0        11  19   1   5          F               FROM GRP32. ELM02                J01
                0        11  19   1   6          F               FROM GRP32. ELM02                J01
                0        11  19   1   8          F               FROM GRP32. ELM02                J01
                0        11  19   1   9          F               FROM GRP32. ELM02                J01
                0        11  19   1  10          F               FROM GRP32. ELM02                J01
                0        11  19   1  13          F               FROM GRP32. ELM02                J01
                0        11  19   1  14          F               FROM GRP32. ELM02                J01
                0        11  19   1  21          F               FROM GRP32. ELM02                J01
                0        11  19   2   5          M               TO GRP21. ELM02                  P01
                0        11  19   2   6          M               TO GRP21. ELM02                  P01
                0        11  19   2   8          M               TO GRP21. ELM02                  P01
                0        11  19   2   9          M               TO GRP21. ELM02                  P01
                0        11  19   2  10          M               TO GRP21. ELM02                  P01
                0        11  19   2  13          M               TO GRP21. ELM02                  P01
                0        11  19   2  14          M               TO GRP21. ELM02                  P01
                0        11  19   2  21          M               TO GRP21. ELM02                  P01
                         11  20   1   1                          SPOOLING MOTOR DRIVE AMP. LEFT   P01
                         11  20   1   2                          SPOOLING MOTOR DRIVE AMP. LEFT   P01
                         11  20   1  16                          SPOOLING MOTOR DRIVE AMP. LEFT   P01
                         11  20   2   1                          SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                         11  20   2   2                          SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                         11  20   2  16                          SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                         11  20   3   1                          CAPSTAN MOTOR DRIVE AMPLIFIER    P03
                         11  20   3   2                          CAPSTAN MOTOR DRIVE AMPLIFIER    P03
                         11  20   3   9                          CAPSTAN MOTOR DRIVE AMPLIFIER    P03
                         11  20   3  11                          CAPSTAN MOTOR DRIVE AMPLIFIER    P03
                         11  20   3  12                          CAPSTAN MOTOR DRIVE AMPLIFIER    P03
                         11  20   3  16                          CAPSTAN MOTOR DRIVE AMPLIFIER    P03
                         11  20   4   1                          PAR. CONT. INT. SYNCHRONIZER     P04
                         11  20   4   2                          PAR. CONT. INT. SYNCHRONIZER     P04
                         11  20   4   9                          PAR. CONT. INT. SYNCHRONIZER     P04
                         11  20   4  11                          PAR. CONT. INT. SYNCHRONIZER     P04
                         11  20   4  16                          PAR. CONT. INT. SYNCHRONIZER     P04
                         11  20   5   1                          SPOOLING MOTOR SUPPLY            P05
                         11  20   5   2                          SPOOLING MOTOR SUPPLY            P05
                         11  20   6   1                          EXT. SENSORS                     P06
                         11  20   6   2                          EXT. SENSORS                     P06
                         11  20   7   1                          TAPE LIFT MOTOR. LEFT            P07
                         11  20   7   2                          TAPE LIFT MOTOR. LEFT            P07
                                                                                                                                 ./.

****************************************************************************************************************
*    WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T          * 86/12/08  *  10:54  *  P A G E  87   *
****************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                       * 86/08/27 - 00                  *
****************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  --------------  ------------------------------------  ---------  -------------
<<-- CONT.OF             11  20   8   1                          TAPE LIFT MOTOR. RIGHT           P08
+ 0.0                    11  20   8   2                          TAPE LIFT MOTOR. RIGHT           P08
                         11  20   9   1                          TACHO SENSOR (SPOOLING M. LEFT)  P09
                         11  20   9   2                          TACHO SENSOR (SPOOLING M. LEFT)  P09
                         11  20  10   1                          TACHO SENSOR (SPOOLING M. RIGHT) P10
                         11  20  10   2                          TACHO SENSOR (SPOOLING M. RIGHT) P10
                         11  20  11   1                          MOVE SENSOR                      P11
                         11  20  11   2                          MOVE SENSOR                      P11
                         11  20  12   1                          TAPE TENSION SENSOR. LEFT        P12
                         11  20  12   2                          TAPE TENSION SENSOR. LEFT        P12
                         11  20  13   1                          TAPE TENSION SENSOR. RIGHT       P13
                         11  20  13   2                          TAPE TENSION SENSOR. RIGHT       P13
                         11  20  14  11                          FUSE FAILURE DETECTOR            P14
                         11  20  14  12                          FUSE FAILURE DETECTOR            P14
                         11  20  15   1                          DISPLAY DRIVER                   P15
                         11  20  15   2                          DISPLAY DRIVER                   P15
                         11  20  16   1                          PARALLEL REMOTE CONTROL          P16
                         11  20  16   2                          PARALLEL REMOTE CONTROL          P16
                         11  20  17   1                          TO HEAD BLOCK ASSEMBLY           P17
                         11  20  17   2                          TO HEAD BLOCK ASSEMBLY           P17
                         11  20  17  20                          TO HEAD BLOCK ASSEMBLY           P17
                         11  20  17  22                          TO HEAD BLOCK ASSEMBLY           P17
                         11  20  17  25                          TO HEAD BLOCK ASSEMBLY           P17
                         11  20  17  26                          TO HEAD BLOCK ASSEMBLY           P17
                         11  20  18   1                          VU-METER PANEL. EXTERNAL         P18
                         11  20  18   2                          VU-METER PANEL. EXTERNAL         P18
                         11  20  18  20                          VU-METER PANEL. EXTERNAL         P18
                         11  20  18  22                          VU-METER PANEL. EXTERNAL         P18
                         11  20  18  25                          VU-METER PANEL. EXTERNAL         P18
                         11  20  18  26                          VU-METER PANEL. EXTERNAL         P18
                         11  20  19   1                          SOURCE SELECTOR                  P19
                         11  20  19   2                          SOURCE SELECTOR                  P19
                         11  20  34   2                          INT. SYNCHRONIZER                P24
                         11  20  34   4                          INT. SYNCHRONIZER                P24
                         11  20  34   6                          INT. SYNCHRONIZER                P24
                         11  20  34   8                          INT. SYNCHRONIZER                P24
                         11  20  34  10                          INT. SYNCHRONIZER                P24
                         11  20  34  11                          INT. SYNCHRONIZER                P24
                         11  20  34  12                          INT. SYNCHRONIZER                P24
                         11  20  34  13                          INT. SYNCHRONIZER                P24
                         11  20  34  14                          INT. SYNCHRONIZER                P24
                         11  20  34  16                          INT. SYNCHRONIZER                P24
                         11  20  34  18                          INT. SYNCHRONIZER                P24
                         11  20  34  20                          INT. SYNCHRONIZER                P24
                         11  20  34  22                          INT. SYNCHRONIZER                P24
                         11  20  34  24                          INT. SYNCHRONIZER                P24
                         11  20  34  26                          INT. SYNCHRONIZER                P24
                         11  20  34  28                          INT. SYNCHRONIZER                P24
                         11  20  34  30                          INT. SYNCHRONIZER                P24
                         11  20  34  32                          INT. SYNCHRONIZER                P24
                         11  20  34  34                          INT. SYNCHRONIZER                P24
                         11  20  34  36                          INT. SYNCHRONIZER                P24
                         11  20  34  38                          INT. SYNCHRONIZER                P24
                         11  20  34  40                          INT. SYNCHRONIZER                P24
                                                                                                                                 ./.
```

```
**************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L     W I R E     L I S T                    * 86/12/08 * 10:54 *   P A G E  88   *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                    * 86/08/27 - 00                      *
**************************************************************************************************************************

SIGNAL NAME     COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                REMARK      ELEMENT NR.
------------    -----  --  ---------------  -  --  --------------  ------------------------------------  ---------   --------------
<<-- CONT.OF               11  20  40   21                         SPOOLING MOTOR DRIVER               J01               1.820.759.00
+ 0.0                      11  20  41   21                         CAPSTAN CONTROL UNIT                J02               1.820.764.00
                           11  20  42  17A                         CAPSTAN INTERFACE                   J03               1.820.727.00
                           11  20  42  17B                         CAPSTAN INTERFACE                   J03               1.820.727.00
                           11  20  43  17A                         TAPE DECK PERIPHERY CONTR.          J04               1.820.762.00
                           11  20  43  17B                         TAPE DECK PERIPHERY CONTR.          J04               1.820.762.00
                           11  20  44   21                         TAPE DECK COUNTER / TIMER           J05               1.820.761.00
                           11  20  45   21                         SPOOLING MOTOR CONTROLLER           J06               1.820.760.00
                           11  20  46   21                         MP-UNIT TO CONTROL                  J07               1.820.785.00
                           11  20  47   21                         TAPE DECK SERIAL INTERFACE          J08               1.820.763.00
                           11  20  48  17A                         MASTER SERIAL INTERFACE             J09               1.820.753.00
                           11  20  48  17B                         MASTER SERIAL INTERFACE             J09               1.820.753.00
                           11  20  49   21                         MP-UNIT MASTER                      J10               1.820.786.00
                           11  20  50   21                         SMPTE/EBU INTERFACE                 J11               1.820.751.00
                0          11  20  60    1         L               WIRE FIELD (FROM GRP20. ELM70)
                0          11  20  60    2         L               WIRE FIELD (FROM GRP20. ELM70)
                0          11  20  60    3         L               WIRE FIELD (FROM GRP20. ELM70)
                0          11  20  61    3         L               WIRE FIELD (FROM GRP20. ELM70)
                0          11  20  61    4         L               WIRE FIELD (FROM GRP20. ELM70)
                0          11  20  61    6         L               WIRE FIELD (FROM GRP20. ELM70)
                0          11  20  61    7         L               WIRE FIELD (FROM GRP20. ELM70)
                0          11  20  61    8         L               WIRE FIELD (FROM GRP20. ELM70)
                0          11  20  70    5         F               FROM GRP21. ELM01                   J13
                0          11  20  70    6         F               FROM GRP21. ELM01                   J13
                0          11  20  70    8         F               FROM GRP21. ELM01                   J13
                0          11  20  70    9         F               FROM GRP21. ELM01                   J13
                0          11  20  70   10         F               FROM GRP21. ELM01                   J13
                0          11  20  70   13         F               FROM GRP21. ELM01                   J13
                0          11  20  70   14         F               FROM GRP21. ELM01                   J13
                0          11  20  70   21         F               FROM GRP21. ELM01                   J13
                           11  25   1    5         B               CONN. AUTOLOCATOR. REMOTE TIMER     J01
                           11  25   2    1         B               CONNECTOR SYNCHRONIZER              J02
                           11  25   2   14         B               CONNECTOR SYNCHRONIZER              J02
                           11  25   3    1         B               CONN. PARALLEL REMOTE CONTROL       J03
                           11  26   1    1                         FROM GRP27. ELM01                   P01
                           11  26   2    9                         TO GRP25. ELM01                     P02
                           11  27   1    1                         TO GRP26. ELM01                     P01
                           11  27   2    1                         FROM GRP20. ELM16                   P02
                           11  27   2    2                         FROM GRP20. ELM16                   P02
                           11  27   3    1                         TO CONNECTOR SYNCHRONIZER           P03
                           11  27   3    2                         TO CONNECTOR SYNCHRONIZER           P03
                           11  27   4    1                         TO CONN. PARALLEL REMOTE CONTR.     P04
                           11  30   1    7         M               FROM GRP31. ELM01                   J01
                           11  30   2    1                         FROM GRP20. ELM02                   P01
                           11  30   2    2                         FROM GRP20. ELM02                   P01
                           11  30   2   16                         FROM GRP20. ELM02                   P01
                           11  31   1   21         M               OUTPUT                              P01
                           11  31   1   22         M               OUTPUT                              P01
                           11  31   3    1                         FROM GRP20. ELM05                   P02
                           11  31   3    2                         FROM GRP20. ELM05                   P02
                           11  32   1    2         F               INPUT FROM GRP12. ELM05             J01
                           11  32   1    3         F               INPUT FROM GRP12. ELM05             J01
                           11  32   1    5         F               INPUT FROM GRP12. ELM05             J01
                           11  32   2    5         M               OUTPUT                              P01
                                                                                                                            ./.
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**************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L     W I R E     L I S T                    * 86/12/08 * 10:54 *   P A G E  89   *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                    * 86/08/27 - 00                      *
**************************************************************************************************************************

SIGNAL NAME     COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                REMARK      ELEMENT NR.
------------    -----  --  ---------------  -  --  --------------  ------------------------------------  ---------   --------------
<<-- CONT.OF               11  32   2    6         M               OUTPUT                              P01
+ 0.0                      11  32   2    8         M               OUTPUT                              P01
                           11  32   2    9         M               OUTPUT                              P01
                           11  32   2   10         M               OUTPUT                              P01
                           11  32   2   13         M               OUTPUT                              P01
                           11  32   2   14         M               OUTPUT                              P01
                           11  32   2   21         M               OUTPUT                              P01
                           11  33   1    7         M               FROM GRP31. ELM01                   J01
                           11  33   2    1                         FROM GRP20. ELM01                   P01
                           11  33   2    2                         FROM GRP20. ELM01                   P01
                           11  33   2   16                         FROM GRP20. ELM01                   P01
                           11  36   1    1                         TACHO SENSOR                        P01               1.820.771.00
                           11  36   1    2                         TACHO SENSOR                        P01               1.820.771.00
                           11  37   1    1                         TACHO SENSOR                        P01               1.820.771.00
                           11  37   1    2                         TACHO SENSOR                        P01               1.820.771.00
                           11  38   1   12         F               FROM GRP39. ELM02                   J01
                           11  39   1    1                         FROM GRP20. ELM03                   P01
                           11  39   1    2                         FROM GRP20. ELM03                   P01
                           11  39   1    9                         FROM GRP20. ELM03                   P01
                           11  39   1   16                         FROM GRP20. ELM03                   P01
                           11  39   2   12         M               TO GRP38. ELM01                     P02
                           11  42   1    1                         FROM GRP20. ELM12                   P01
                           11  42   1    2                         FROM GRP20. ELM12                   P01
                           11  43   1    1                         FROM GRP20. ELM13                   P01
                           11  43   1    2                         FROM GRP20. ELM13                   P01
                           11  44   1    1                         FROM GRP20. ELM06                   P01
                           11  44   1    2                         FROM GRP20. ELM06                   P01
                           11  45   1    1                         FROM GRP20. ELM11                   P01
                           11  45   1    2                         FROM GRP20. ELM11                   P01
                           11  46   1    1                         FROM GRP20. ELM07                   P01
                           11  46   1    2                         FROM GRP20. ELM07                   P01
                           11  47   1    1                         FROM GRP20. ELM08                   P01
                           11  47   1    2                         FROM GRP20. ELM08                   P01
                           11  48   1    1                         FROM GRP50. ELM03
                           11  48   1    2                         FROM GRP50. ELM03
                           11  48   2    1                         CONNECTOR EDIT ASSEMBLY
                           11  48   2    2                         CONNECTOR EDIT ASSEMBLY
                           11  49   1    1                         FROM GRP48. ELM02
                           11  49   1    2                         FROM GRP48. ELM02
                           11  49   2    5                         WIRE FIELD
                           11  50   1    1                         FROM GRP20. ELM15                   P01
                           11  50   1    2                         FROM GRP20. ELM15                   P01
                           11  50   2    1                         CONNECTOR COMMAND UNIT              P03
                           11  50   2    2                         CONNECTOR COMMAND UNIT              P03
                           11  50   3    1                         CONNECTOR PUSHBUTTON ASSEMBLY       P02
                           11  50   3    2                         CONNECTOR PUSHBUTTON ASSEMBLY       P02
                           11  50   4    1                         CONNECTOR LCD DISPLAY UNIT          P04
                           11  51   1    1                         FROM GRP50.ELM02
                           11  51   1    2                         FROM GRP50.ELM02
                           11  52   1    1                         FROM GRP50. ELM04
                           11  59   1   11                         FROM GRP20. ELM14                   P01
                           11  59   1   12                         FROM GRP20. ELM14                   P01
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*****************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                         *  86/12/08  *  10:54  *   P A G E  90   *
*****************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                         *
*****************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                REMARK       ELEMENT NR.
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* 5.0                    11  26   1   2                          FROM GRP27. ELM01                P01
                         11  27   1   2                          TO GRP26. ELM01                  P01
                         11  48   2   3                          CONNECTOR EDIT ASSEMBLY
                         11  49   1   3                          FROM GRP48. ELM02
                         11  49   2   1                          WIRE FIELD
                         11  50   4   2                          CONNECTOR LCD DISPLAY UNIT       P04
                         11  52   1   2                          FROM GRP50. ELM04
-----------   -----  --  ---------------  -  --  --------------  ------------------------------------  ---------    -------------
* 5.6         3          11  19   1   1            F               FROM GRP32. ELM02                J01
              3          11  19   1   2            F               FROM GRP32. ELM02                J01
              3          11  19   2   1            M               TO GRP21. ELM02                  P01
              3          11  19   2   2            M               TO GRP21. ELM02                  P01
                         11  20   1   3                          SPOOLING MOTOR DRIVE AMP. LEFT   P01
                         11  20   1   4                          SPOOLING MOTOR DRIVE AMP. LEFT   P01
                         11  20   2   3                          SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                         11  20   2   4                          SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                         11  20   3   3                          CAPSTAN MOTOR DRIVE AMPLIFIER    P03
                         11  20   3   4                          CAPSTAN MOTOR DRIVE AMPLIFIER    P03
                         11  20   4   3                          PAR. CONT. INT. SYNCHRONIZER     P04
                         11  20   4   4                          PAR. CONT. INT. SYNCHRONIZER     P04
                         11  20   5   3                          SPOOLING MOTOR SUPPLY            P05
                         11  20   5   4                          SPOOLING MOTOR SUPPLY            P05
                         11  20   6   3                          EXT. SENSORS                     P06
                         11  20   6   4                          EXT. SENSORS                     P06
                         11  20   7   3                          TAPE LIFT MOTOR. LEFT            P07
                         11  20   7   4                          TAPE LIFT MOTOR. LEFT            P07
                         11  20   8   3                          TAPE LIFT MOTOR. RIGHT           P08
                         11  20   8   4                          TAPE LIFT MOTOR. RIGHT           P08
                         11  20   9   3                          TACHO SENSOR (SPOOLING M. LEFT)  P09
                         11  20   9   4                          TACHO SENSOR (SPOOLING M. LEFT)  P09
                         11  20  10   3                          TACHO SENSOR (SPOOLING M. RIGHT) P10
                         11  20  10   4                          TACHO SENSOR (SPOOLING M. RIGHT) P10
                         11  20  11   3                          MOVE SENSOR                      P11
                         11  20  11   4                          MOVE SENSOR                      P11
                         11  20  12   3                          TAPE TENSION SENSOR. LEFT        P12
                         11  20  12   4                          TAPE TENSION SENSOR. LEFT        P12
                         11  20  13   3                          TAPE TENSION SENSOR. RIGHT       P13
                         11  20  13   4                          TAPE TENSION SENSOR. RIGHT       P13
                         11  20  14   9                          FUSE FAILURE DETECTOR            P14
                         11  20  14  10                          FUSE FAILURE DETECTOR            P14
                         11  20  15   3                          DISPLAY DRIVER                   P15
                         11  20  15   4                          DISPLAY DRIVER                   P15
                         11  20  16   3                          PARALLEL REMOTE CONTROL          P16
                         11  20  16   4                          PARALLEL REMOTE CONTROL          P16
                         11  20  17   3                          TO HEAD BLOCK ASSEMBLY           P17
                         11  20  17   4                          TO HEAD BLOCK ASSEMBLY           P17
                         11  20  18   3                          VU-METER PANEL. EXTERNAL         P18
                         11  20  18   4                          VU-METER PANEL. EXTERNAL         P18
                         11  20  19   3                          SOURCE SELECTOR                  P19
                         11  20  19   4                          SOURCE SELECTOR                  P19
                         11  20  40  20                          SPOOLING MOTOR DRIVER            J01                      1.820.759.00
                         11  20  41  20                          CAPSTAN CONTROL UNIT             J02                      1.820.764.00
                         11  20  42 16A                          CAPSTAN INTERFACE                J03                      1.820.727.00
                         11  20  42 16B                          CAPSTAN INTERFACE                J03                      1.820.727.00
                         11  20  43 16A                          TAPE DECK PERIPHERY CONTR.       J04                      1.820.762.00
                                                                                                                                    ./.


*****************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                         *  86/12/08  *  10:54  *   P A G E  91   *
*****************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                         *
*****************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                REMARK       ELEMENT NR.
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<<-- CONT.OF             11  20  43 16B                          TAPE DECK PERIPHERY CONTR.       J04                      1.820.762.00
* 5.6                    11  20  44  20                          TAPE DECK COUNTER / TIMER        J05                      1.820.761.00
                         11  20  45  20                          SPOOLING MOTOR CONTROLLER        J06                      1.820.760.00
                         11  20  46  20                          MP-UNIT TD CONTROL               J07                      1.820.785.00
                         11  20  47  20                          TAPE DECK SERIAL INTERFACE       J08                      1.820.763.00
                         11  20  48 16A                          MASTER SERIAL INTERFACE          J09                      1.820.753.00
                         11  20  48 16B                          MASTER SERIAL INTERFACE          J09                      1.820.753.00
                         11  20  49  20                          MP-UNIT MASTER                   J10                      1.820.786.00
                         11  20  50  20                          SMPTE/EBU INTERFACE              J11                      1.820.751.00
              3          11  20  62   1            L               WIRE FIELD
              3          11  20  62   2            L               WIRE FIELD
              3          11  20  70   1            F               FROM GRP21. ELM01                J13
              3          11  20  70   2            F               FROM GRP21. ELM01                J13
                         11  27   2   3                          FROM GRP20. ELM16                P02
                         11  27   2   4                          FROM GRP20. ELM16                P02
                         11  30   2   3                          FROM GRP20. ELM02                P01
                         11  30   2   4                          FROM GRP20. ELM02                P01
                         11  31   3   3                          FROM GRP20. ELM05                P02
                         11  31   3   4                          FROM GRP20. ELM05                P02
                         11  32   2   1            M               OUTPUT                           P01
                         11  32   2   2            M               OUTPUT                           P01
                         11  33   2   3                          FROM GRP20. ELM01                P01
                         11  33   2   4                          FROM GRP20. ELM01                P01
                         11  36   1   3                          TACHO SENSOR                     P01                      1.820.771.00
                         11  36   1   4                          TACHO SENSOR                     P01                      1.820.771.00
                         11  37   1   3                          TACHO SENSOR                     P01                      1.820.771.00
                         11  37   1   4                          TACHO SENSOR                     P01                      1.820.771.00
                         11  39   1   3                          FROM GRP20. ELM03                P01
                         11  39   1   4                          FROM GRP20. ELM03                P01
                         11  42   1   3                          FROM GRP20. ELM12                P01
                         11  42   1   4                          FROM GRP20. ELM12                P01
                         11  43   1   3                          FROM GRP20. ELM13                P01
                         11  43   1   4                          FROM GRP20. ELM13                P01
                         11  44   1   3                          FROM GRP20. ELM06                P01
                         11  44   1   4                          FROM GRP20. ELM06                P01
                         11  45   1   3                          FROM GRP20. ELM11                P01
                         11  45   1   4                          FROM GRP20. ELM11                P01
                         11  46   1   3                          FROM GRP20. ELM07                P01
                         11  46   1   4                          FROM GRP20. ELM07                P01
                         11  47   1   3                          FROM GRP20. ELM08                P01
                         11  47   1   4                          FROM GRP20. ELM08                P01
                         11  48   1   3                          FROM GRP50. ELM03
                         11  48   1   4                          FROM GRP50. ELM03
                         11  50   1   3                          FROM GRP20. ELM15                P01
                         11  50   1   4                          FROM GRP20. ELM15                P01
                         11  50   2   3                          CONNECTOR COMMAND UNIT           P03
                         11  50   2   4                          CONNECTOR COMMAND UNIT           P03
                         11  50   3   3                          CONNECTOR PUSHBUTTON ASSEMBLY    P02
                         11  50   3   4                          CONNECTOR PUSHBUTTON ASSEMBLY    P02
                         11  51   1   3                          FROM GRP50.ELM02
                         11  51   1   4                          FROM GRP50.ELM02
                         11  59   1   9                          FROM GRP20. ELM14                P01
                         11  59   1  10                          FROM GRP20. ELM14                P01
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******************************************************************************************************************************
*    WILLI STUDER AG   *     S  I  G  N  A  L     W  I  R  E     L  I  S  T                * 86/12/08  *  10:54  *   P A G E  92   *
******************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                               * 86/08/27 - 00                       *
******************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
+ 5V                      11  38   1   9         F                FROM GRP39. ELM02                   J01
                          11  39   2   9         M                TO GRP38. ELM01                     P02
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
+CAPMUT       2            1  79   1  24                          POWER CONNECTOR  (24 PIN MOLEX FEM)
              2            1  79   2  24                          POWER CONNECTOR (24 PIN MOLEX MALE)
              2           11  11   3   3         L                RECTIFIER                           DZ03                  70.01.0231
              2           11  12   4   1         L                CAPACITOR                           C04                   59.26.7103
              2           11  12   5   7         M                CONNECTOR TO GRP32. ELM01           P01
              2           11  19   1  24         F                FROM GRP32. ELM02                   J01
              2           11  19   2  24         M                TO GRP21. ELM02                     P01
                          11  20  14   1                          FUSE FAILURE DETECTOR               P14
                          11  20  14   2                          FUSE FAILURE DETECTOR               P14
              2           11  20  62   6         L                WIRE FIELD
              2           11  20  62   7         L                WIRE FIELD
              2           11  20  70  24         F                FROM GRP21. ELM01                   J13
              2           11  20  71   6         F                TO CAPSTAN MOTOR DRIVE AMP.
                          11  32   1   7         F                INPUT FROM GRP12. ELM05             J01
                          11  32   2  24         M                OUTPUT                              P01
                          11  39   3   6         M                  FROM GRP20. ELM71                 P03
                          11  59   1   1                          FROM GRP20. ELM14                   P01
                          11  59   1   2                          FROM GRP20. ELM14                   P01
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
+PSVTMOT      2           11  18   1   1         F                FROM GRP31. ELM01                   J01
              2           11  18   1   2         F                FROM GRP31. ELM01                   J01
              2           11  18   1   3         F                FROM GRP31. ELM01                   J01
              2           11  18   1   4         F                FROM GRP31. ELM01                   J01
              2           11  18   1   5         F                FROM GRP31. ELM01                   J01
              2           11  18   1   6         F                FROM GRP31. ELM01                   J01
              2           11  18   1   7         F                FROM GRP31. ELM01                   J01
              2           11  18   1   8         F                FROM GRP31. ELM01                   J01
              2           11  18   2   3         F                TO GRP33. ELM01                     P01
              2           11  18   2   6         F                TO GRP33. ELM01                     P01
              2           11  18   2   9         F                TO GRP33. ELM01                     P01
              2           11  18   2  12         F                TO GRP33. ELM01                     P01
              2           11  18   3   3         F                TO GRP30. ELM01                     P02
              2           11  18   3   6         F                TO GRP30. ELM01                     P02
              2           11  18   3   9         F                TO GRP30. ELM01                     P02
              2           11  18   3  12         F                TO GRP30. ELM01                     P02
                          11  30   1   3         M                FROM GRP31. ELM01                   J01
                          11  30   1   6         M                FROM GRP31. ELM01                   J01
                          11  30   1   9         M                FROM GRP31. ELM01                   J01
                          11  30   1  12         M                FROM GRP31. ELM01                   J01
                          11  31   1   1         M                OUTPUT                              P01
                          11  31   1   2         M                OUTPUT                              P01
                          11  31   1   3         M                OUTPUT                              P01
                          11  31   1   4         M                OUTPUT                              P01
                          11  31   1   5         M                OUTPUT                              P01
                          11  31   1   6         M                OUTPUT                              P01
                          11  31   1   7         M                OUTPUT                              P01
                          11  31   1   8         M                OUTPUT                              P01
                          11  31   4   1         F                CONNECTOR TO CAPACITOR (GRP34)      P03
                          11  31   4   2         F                CONNECTOR TO CAPACITOR (GRP34)      P03
                          11  31   4   3         F                CONNECTOR TO CAPACITOR (GRP34)      P03
                          11  33   1   3         M                FROM GRP31. ELM01                   J01
                          11  33   1   6         M                FROM GRP31. ELM01                   J01
                                                                                                                                ./.
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******************************************************************************************************************************
*    WILLI STUDER AG   *     S  I  G  N  A  L     W  I  R  E     L  I  S  T                * 86/12/08  *  10:54  *   P A G E  93   *
******************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                               * 86/08/27 - 00                       *
******************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
<<-- CONT.OF              11  33   1   9         M                FROM GRP31. ELM01                   J01
+PSVTMOT                  11  33   1  12         M                FROM GRP31. ELM01                   J01
              2           11  34   1  1A         L                CAPACITOR
              2           11  34   1  1B         L                CAPACITOR
              2           11  34   1  1C         L                CAPACITOR
              2           11  34   2   1         M                CONNECTOR (FROM GRP31)              J01
              2           11  34   2   2         M                CONNECTOR (FROM GRP31)              J01
              2           11  34   2   3         M                CONNECTOR (FROM GRP31)              J01
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
+REMSUP       8            1  79   1  16                          POWER CONNECTOR  (24 PIN MOLEX FEM)
              8            1  79   2  16                          POWER CONNECTOR (24 PIN MOLEX MALE)
              8           11  19   1  16         F                FROM GRP32. ELM02                   J01
              8           11  19   2  16         M                TO GRP21. ELM02                     P01
                          11  20  16   5                          PARALLEL REMOTE CONTROL             P16
                          11  20  16   6                          PARALLEL REMOTE CONTROL             P16
              8           11  20  62  10         U                WIRE FIELD
              8           11  20  70  16         F                FROM GRP21. ELM01                   J13
                          11  25   1   9         B                CONN. AUTOLOCATOR. REMOTE TIMER     J01
                          11  26   1   3                          FROM GRP27. ELM01                   P01
                          11  26   2   8                          TO GRP25. ELM01                     P02
                          11  27   1   3                          TO GRP26. ELM01                     P01
                          11  27   2   5                          FROM GRP20. ELM16                   P02
                          11  27   2   6                          FROM GRP20. ELM16                   P02
                          11  32   2  16         M                OUTPUT                              P01
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
+STABIN       3            1  79   1  17                          POWER CONNECTOR  (24 PIN MOLEX FEM)
              3            1  79   2  17                          POWER CONNECTOR (24 PIN MOLEX MALE)
              2           11  11   1   3         L                RECTIFIER                           DZ01                  70.01.0231
              2           11  12   1   1         L                CAPACITOR                           C01                   59.26.7103
              2           11  12   2   1         L                CAPACITOR                           C02                   59.26.7103
              2           11  12   5   1         M                CONNECTOR TO GRP32. ELM01           P01
              2           11  12   5   4         M                CONNECTOR TO GRP32. ELM01           P01
                          11  32   1   1         F                INPUT FROM GRP12. ELM05             J01
                          11  32   1   4         F                INPUT FROM GRP12. ELM05             J01
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
+STABSNS      3           11  19   1  17         F                FROM GRP32. ELM02                   J01
              3           11  19   2  17         M                TO GRP21. ELM02                     P01
                          11  20  14   7                          FUSE FAILURE DETECTOR               P14
                          11  20  14   8                          FUSE FAILURE DETECTOR               P14
              3           11  20  62   4         U                WIRE FIELD
              3           11  20  70  17         F                FROM GRP21. ELM01                   J13
                          11  32   2  17         M                OUTPUT                              P01
                          11  59   1   7                          FROM GRP20. ELM14                   P01
                          11  59   1   8                          FROM GRP20. ELM14                   P01
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
+VMOTLFT                  11  33   3   1         J                                                    P02
              2           11  36   2   1                          FROM GRP33. ELM 03
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
+VMOTRHT                  11  30   3   1         J                                                    P02
              2           11  37   2   1                          FROM GRP30. ELM 03
------------  -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  ---------------
+YSUP                     11  20   5   9                          SPOOLING MOTOR SUPPLY               P05
                          11  20  43 12A                          TAPE DECK PERIPHERY CONTR.          J04                   1.820.762.00
                          11  31   3   9                          FROM GRP20. ELM05                   P02
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***********************************************************************************************************************************
*    WILLI STUDER AG   *     S I G N A L     W I R E     L I S T                    *  86/12/08  *  10:54  *   P A G E  94    *
***********************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                              *
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SIGNAL NAME     COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT               REMARK     ELEMENT NR.
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+0.0                        1  70   1  23                           SIGNAL QUALITY   (26-PIN FLATCABLE)             1.861.731.00
                            1  70   1  24                           SIGNAL QUALITY   (26-PIN FLATCABLE)             1.861.731.00
                            1  70   1  25                           SIGNAL QUALITY   (26-PIN FLATCABLE)             1.861.731.00
                            1  70   1  26                           SIGNAL QUALITY   (26-PIN FLATCABLE)             1.861.731.00
                            1  74   1   5                           RACK-CCP/DP          (25-PIN D-SUB)             1.861.000.00
                            1  74   1   6                           RACK-CCP/DP          (25-PIN D-SUB)             1.861.000.00
                            1  74   1   7                           RACK-CCP/DP          (25-PIN D-SUB)             1.861.000.00
                            1  74   1   8                           RACK-CCP/DP          (25-PIN D-SUB)             1.861.000.00
                            1  74   1   9                           RACK-CCP/DP          (25-PIN D-SUB)             1.861.000.00
                            1  74   1  10                           RACK-CCP/DP          (25-PIN D-SUB)             1.861.000.00
                            1  74   1  11                           RACK-CCP/DP          (25-PIN D-SUB)             1.861.000.00
                            1  74   1  12                           RACK-CCP/DP          (25-PIN D-SUB)             1.861.000.00
                            1  74   1  13                           RACK-CCP/DP          (25-PIN D-SUB)             1.861.000.00
                  0         1  79   1   5                           POWER CONNECTOR  (24 PIN MOLEX FEM)
                  0         1  79   1   6                           POWER CONNECTOR  (24 PIN MOLEX FEM)
                  0         1  79   1   8                           POWER CONNECTOR  (24 PIN MOLEX FEM)
                  0         1  79   1   9                           POWER CONNECTOR  (24 PIN MOLEX FEM)
                  0         1  79   1  10                           POWER CONNECTOR  (24 PIN MOLEX FEM)
                  0         1  79   1  13                           POWER CONNECTOR  (24 PIN MOLEX FEM)
                  0         1  79   1  14                           POWER CONNECTOR  (24 PIN MOLEX FEM)
                  0         1  79   1  21                           POWER CONNECTOR  (24 PIN MOLEX FEM)
                  0         1  79   1  22                           POWER CONNECTOR  (24 PIN MOLEX FEM)
                  0         1  79   2   5                           POWER CONNECTOR (24 PIN MOLEX MALE)
                  0         1  79   2   6                           POWER CONNECTOR (24 PIN MOLEX MALE)
                  0         1  79   2   8                           POWER CONNECTOR (24 PIN MOLEX MALE)
                  0         1  79   2   9                           POWER CONNECTOR (24 PIN MOLEX MALE)
                  0         1  79   2  10                           POWER CONNECTOR (24 PIN MOLEX MALE)
                  0         1  79   2  13                           POWER CONNECTOR (24 PIN MOLEX MALE)
                  0         1  79   2  14                           POWER CONNECTOR (24 PIN MOLEX MALE)
                  0         1  79   2  21                           POWER CONNECTOR (24 PIN MOLEX MALE)
                  0         1  79   2  22                           POWER CONNECTOR (24 PIN MOLEX MALE)
                            1  79   3   7                           CAGE PWR CONNECTOR   (25 PIN D-SUB)
                            1  79   3   8                           CAGE PWR CONNECTOR   (25 PIN D-SUB)
                            1  79   3   9                           CAGE PWR CONNECTOR   (25 PIN D-SUB)
                            1  79   3  20                           CAGE PWR CONNECTOR   (25 PIN D-SUB)
                            1  79   3  21                           CAGE PWR CONNECTOR   (25 PIN D-SUB)
                            1  79   4   6                           POWER CONNECTOR RACK (25 PIN D-SUB)
                            1  79   4   7                           POWER CONNECTOR RACK (25 PIN D-SUB)
                            1  79   4  18                           POWER CONNECTOR RACK (25 PIN D-SUB)
                            1  79   4  19                           POWER CONNECTOR RACK (25 PIN D-SUB)
                            1  80   1  1A                           CUE/PQ DELAY                                    1.861.816.00
                            1  80   1  1B                           CUE/PQ DELAY                                    1.861.816.00
                            1  80   1  1C                           CUE/PQ DELAY                                    1.861.816.00
                            1  80   1 15A                           CUE/PQ DELAY                                    1.861.816.00
                            1  80   1 15B                           CUE/PQ DELAY                                    1.861.816.00
                            1  80   1 15C                           CUE/PQ DELAY                                    1.861.816.00
                            1  80   2  1A                           PDM MODULATOR                                   1.861.811.00
                            1  80   2  1B                           PDM MODULATOR                                   1.861.811.00
                            1  80   2  1C                           PDM MODULATOR                                   1.861.811.00
                            1  80   2 15A                           PDM MODULATOR                                   1.861.811.00
                            1  80   2 15B                           PDM MODULATOR                                   1.861.811.00
                            1  80   2 15C                           PDM MODULATOR                                   1.861.811.00
                            1  80   3  1A                           PDM DEMODULATOR 1                               1.861.812.00
                            1  80   3  1B                           PDM DEMODULATOR 1                               1.861.812.00
                            1  80   3  1C                           PDM DEMODULATOR 1                               1.861.812.00
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*    WILLI STUDER AG   *     S I G N A L     W I R E     L I S T                    *  86/12/08  *  10:54  *   P A G E  95    *
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*               1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                              *
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SIGNAL NAME     COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT               REMARK     ELEMENT NR.
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<<-- CONT.OF                1  80   3 15A                           PDM DEMODULATOR 1                               1.861.812.00
+0.0                        1  80   3 15B                           PDM DEMODULATOR 1                               1.861.812.00
                            1  80   3 15C                           PDM DEMODULATOR 1                               1.861.812.00
                            1  80   4  1A                           PDM DEMODULATOR 2                               1.861.812.00
                            1  80   4  1B                           PDM DEMODULATOR 2                               1.861.812.00
                            1  80   4  1C                           PDM DEMODULATOR 2                               1.861.812.00
                            1  80   4 15A                           PDM DEMODULATOR 2                               1.861.812.00
                            1  80   4 15B                           PDM DEMODULATOR 2                               1.861.812.00
                            1  80   4 15C                           PDM DEMODULATOR 2                               1.861.812.00
                            1  80   5  1A                           SPARE 1                                         1.861.815.00
                            1  80   5  1B                           SPARE 1                                         1.861.815.00
                            1  80   5  1C                           SPARE 1                                         1.861.815.00
                            1  80   5 15A                           SPARE 1                                         1.861.815.00
                            1  80   5 15B                           SPARE 1                                         1.861.815.00
                            1  80   5 15C                           SPARE 1                                         1.861.815.00
                            1  80   6  1A                           ANALOG ROUTING                                  1.861.814.00
                            1  80   6  1B                           ANALOG ROUTING                                  1.861.814.00
                            1  80   6  1C                           ANALOG ROUTING                                  1.861.814.00
                            1  80   6  4C                           ANALOG ROUTING                                  1.861.814.00
                            1  80   6 15A                           ANALOG ROUTING                                  1.861.814.00
                            1  80   6 15B                           ANALOG ROUTING                                  1.861.814.00
                            1  80   6 15C                           ANALOG ROUTING                                  1.861.814.00
                            1  80   7  1A                           PDM CONTROL                                     1.861.813.00
                            1  80   7  1B                           PDM CONTROL                                     1.861.813.00
                            1  80   7  1C                           PDM CONTROL                                     1.861.813.00
                            1  80   7 15A                           PDM CONTROL                                     1.861.813.00
                            1  80   7 15B                           PDM CONTROL                                     1.861.813.00
                            1  80   7 15C                           PDM CONTROL                                     1.861.813.00
                            1  80   8  1A                           DISPLAY INTERFACE                               1.861.817.00
                            1  80   8  1B                           DISPLAY INTERFACE                               1.861.817.00
                            1  80   8  1C                           DISPLAY INTERFACE                               1.861.817.00
                            1  80   8 15A                           DISPLAY INTERFACE                               1.861.817.00
                            1  80   8 15B                           DISPLAY INTERFACE                               1.861.817.00
                            1  80   8 15C                           DISPLAY INTERFACE                               1.861.817.00
                            1  80   9  1A                           SPARE 2
                            1  80   9  1B                           SPARE 2
                            1  80   9  1C                           SPARE 2
                            1  80   9 15A                           SPARE 2
                            1  80   9 15B                           SPARE 2
                            1  80   9 15C                           SPARE 2
                            1  80  13   6                           RACK PWR CONNECTOR   (25 PIN D-SUB)
                            1  80  13   7                           RACK PWR CONNECTOR   (25 PIN D-SUB)
                            1  80  13  18                           RACK PWR CONNECTOR   (25 PIN D-SUB)
                            1  80  13  19                           RACK PWR CONNECTOR   (25 PIN D-SUB)
                            1  80  17  12                           SIGNAL QUALITY DISPL.(25 PIN D-SUB)
                            1  80  17  13                           SIGNAL QUALITY DISPL.(25 PIN D-SUB)
                            1  80  17  25                           SIGNAL QUALITY DISPL.(25 PIN D-SUB)
                            1  80  18   6                           DISPLAY PANEL/CCP    (25 PIN D-SUB)
                            1  80  18   7                           DISPLAY PANEL/CCP    (25 PIN D-SUB)
                            1  80  18   8                           DISPLAY PANEL/CCP    (25 PIN D-SUB)
                            1  80  18   9                           DISPLAY PANEL/CCP    (25 PIN D-SUB)
                            1  80  18  10                           DISPLAY PANEL/CCP    (25 PIN D-SUB)
                            1  80  18  11                           DISPLAY PANEL/CCP    (25 PIN D-SUB)
                            1  80  18  12                           DISPLAY PANEL/CCP    (25 PIN D-SUB)
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*    WILLI STUDER AG    *     S I G N A L     W I R E     L I S T           *  86/12/08  *  10:54  *   P A G E  96   *
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*              1.861.022.00  D820X PCM RECORDER                             *  86/08/27 - 00                         *
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SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE               DESCRIPTION OF ELEMENT                   REMARK      ELEMENT NR.
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<<-- CONT.OF               1  80  18  13                            DISPLAY PANEL/CCP     (25 PIN D-SUB)
+0.0          0            1  80  19   5                            RACK-MONITOR PANEL      (D-SUB CRIMP)
              0            1  80  19   6                            RACK-MONITOR PANEL      (D-SUB CRIMP)
              0            1  80  19  17                            RACK-MONITOR PANEL      (D-SUB CRIMP)
              0            1  80  19  18                            RACK-MONITOR PANEL      (D-SUB CRIMP)
                           1  80  21   1                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21   3                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21   5                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21   7                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21   9                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21  11                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21  13                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21  15                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21  17                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21  19                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21  21                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21  23                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  21  25                            RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           1  80  22   1                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22   3                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22   5                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22   7                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22   9                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22  11                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22  13                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22  15                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22  17                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22  19                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22  21                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22  23                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           1  80  22  25                            RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           2   1   2   7                            POWER DELTA MOLEX (P2)  (D-SUB 25P)                  1.861.895.00
                           2   1   2   8                            POWER DELTA MOLEX (P2)  (D-SUB 25P)                  1.861.895.00
                           2   1   2   9                            POWER DELTA MOLEX (P2)  (D-SUB 25P)                  1.861.895.00
                           2   1   2  20                            POWER DELTA MOLEX (P2)  (D-SUB 25P)                  1.861.895.00
                           2   1   2  21                            POWER DELTA MOLEX (P2)  (D-SUB 25P)                  1.861.895.00
                           2   1   4  15A                           DETECTOR                                             1.861.804.00
                           2   1   4  15B                           DETECTOR                                             1.861.804.00
                           2   1   4  15C                           DETECTOR                                             1.861.804.00
                           2   1   5  15A                           WRITE AMPLIFIER                                      1.861.803.00
                           2   1   5  15B                           WRITE AMPLIFIER                                      1.861.803.00
                           2   1   5  15C                           WRITE AMPLIFIER                                      1.861.803.00
                           2   1   6  15A                           TAPE DECK MONITOR                                    1.861.802.00
                           2-  1   6  15B                           TAPE DECK MONITOR                                    1.861.802.00
                           2   1   6  15C                           TAPE DECK MONITOR                                    1.861.802.00
                           2   1   7  15A                           PLAYBACK AMPLIFIER                                   1.861.801.00
                           2   1   7  15B                           PLAYBACK AMPLIFIER                                   1.861.801.00
                           2   1   7  15C                           PLAYBACK AMPLIFIER                                   1.861.801.00
                           2   3   1  18                            HEADBLOCK READ (P4)     (D-SUB 25P)                  1.861.801.00
                           2   3   1  19                            HEADBLOCK READ (P4)     (D-SUB 25P)                  1.861.801.00
                           2   3   1  20                            HEADBLOCK READ (P4)     (D-SUB 25P)                  1.861.801.00
                           2   3   1  21                            HEADBLOCK READ (P4)     (D-SUB 25P)                  1.861.801.00
                           2   4   2   1                            INTERNAL PHONE CONNECTOR J2   (CIS)                  1.861.802.00
                           2   4   2   6                            INTERNAL PHONE CONNECTOR J2   (CIS)                  1.861.802.00
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*    WILLI STUDER AG    *     S I G N A L     W I R E     L I S T           *  86/12/08  *  10:54  *   P A G E  97   *
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*              1.861.022.00  D820X PCM RECORDER                             *  86/08/27 - 00                         *
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SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE               DESCRIPTION OF ELEMENT                   REMARK      ELEMENT NR.
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<<-- CONT.OF               2   6   1   3                            INTERNAL PHONE PLUG           (SOLD.)               54.240.102.00
+0.0                       3   1   1   5                            CBUS CCP TRANSCEIVER  (D-SUB 25P F)        0         1.861.742.00
                           3   1   1   6                            CBUS CCP TRANSCEIVER  (D-SUB 25P F)        0         1.861.742.00
                           3   1   1   7                            CBUS CCP TRANSCEIVER  (D-SUB 25P F)        0         1.861.742.00
                           3   1   1   8                            CBUS CCP TRANSCEIVER  (D-SUB 25P F)        0         1.861.742.00
                           3   1   1   9                            CBUS CCP TRANSCEIVER  (D-SUB 25P F)        0         1.861.742.00
                           3   1   1  10                            CBUS CCP TRANSCEIVER  (D-SUB 25P F)        0         1.861.742.00
                           3   1   1  11                            CBUS CCP TRANSCEIVER  (D-SUB 25P F)        0         1.861.742.00
                           3   1   1  12                            CBUS CCP TRANSCEIVER  (D-SUB 25P F)        0         1.861.742.00
                           3   1   1  13                            CBUS CCP TRANSCEIVER  (D-SUB 25P F)        0         1.861.742.00
                           3   1   2  14                            DATA DP KEYBOARD     (FLATCABLE 26P)                 1.861.742.00
                           3   1   2  16                            DATA DP KEYBOARD     (FLATCABLE 26P)                 1.861.742.00
                           3   1   2  18                            DATA DP KEYBOARD     (FLATCABLE 26P)                 1.861.742.00
                           3   1   2  20                            DATA DP KEYBOARD     (FLATCABLE 26P)                 1.861.742.00
                           3   1   2  22                            DATA DP KEYBOARD     (FLATCABLE 26P)                 1.861.742.00
                           3   1   2  24                            DATA DP KEYBOARD     (FLATCABLE 26P)                 1.861.742.00
                           3   1   2  26                            DATA DP KEYBOARD     (FLATCABLE 26P)                 1.861.742.00
                           3   2   1   5                            BUS REARPANEL TD       (D-SUB 25P M)                 1.861.744.00
                           3   2   1   6                            BUS REARPANEL TD       (D-SUB 25P M)                 1.861.744.00
                           3   2   1   7                            BUS REARPANEL TD       (D-SUB 25P M)                 1.861.744.00
                           3   2   1   8                            BUS REARPANEL TD       (D-SUB 25P M)                 1.861.744.00
                           3   2   1   9                            BUS REARPANEL TD       (D-SUB 25P M)                 1.861.744.00
                           3   2   1  10                            BUS REARPANEL TD       (D-SUB 25P M)                 1.861.744.00
                           3   2   1  11                            BUS REARPANEL TD       (D-SUB 25P M)                 1.861.744.00
                           3   2   1  12                            BUS REARPANEL TD       (D-SUB 25P M)                 1.861.744.00
                           3   2   1  13                            BUS REARPANEL TD       (D-SUB 25P M)                 1.861.744.00
                           3   2   2   5                            CBUS DP PROCESSOR      (D-SUB 25P F)                 1.861.744.00
                           3   2   2   6                            CBUS DP PROCESSOR      (D-SUB 25P F)                 1.861.744.00
                           3   2   2   7                            CBUS DP PROCESSOR      (D-SUB 25P F)                 1.861.744.00
                           3   2   2   8                            CBUS DP PROCESSOR      (D-SUB 25P F)                 1.861.744.00
                           3   2   2   9                            CBUS DP PROCESSOR      (D-SUB 25P F)                 1.861.744.00
                           3   2   2  10                            CBUS DP PROCESSOR      (D-SUB 25P F)                 1.861.744.00
                           3   2   2  11                            CBUS DP PROCESSOR      (D-SUB 25P F)                 1.861.744.00
                           3   2   2  12                            CBUS DP PROCESSOR      (D-SUB 25P F)                 1.861.744.00
                           3   2   2  13                            CBUS DP PROCESSOR      (D-SUB 25P F)                 1.861.744.00
                           3   2   4   1                            POWER CCP KEYBOARD   (FLATCABEL 10P)                 1.861.744.00
                           3   2   4   3                            POWER CCP KEYBOARD   (FLATCABEL 10P)                 1.861.744.00
                           3   2   4   5                            POWER CCP KEYBOARD   (FLATCABEL 10P)                 1.861.744.00
                           3   2   4   7                            POWER CCP KEYBOARD   (FLATCABEL 10P)                 1.861.744.00
                           3   2   4   9                            POWER CCP KEYBOARD   (FLATCABEL 10P)                 1.861.744.00
                           3   3   1   5                            CBUS REARPANEL RACK    (D-SUB 25P M)                 1.861.744.00
                           3   3   1   6                            CBUS REARPANEL RACK    (D-SUB 25P M)                 1.861.744.00
                           3   3   1  17                            CBUS REARPANEL RACK    (D-SUB 25P M)                 1.861.744.00
                           3   3   1  18                            CBUS REARPANEL RACK    (D-SUB 25P M)                 1.861.744.00
                           3   3   6   1                            DATA MP KEYBOARD     (FLATCABLE 26P)                 1.861.746.00
                           3   3   6   3                            DATA MP KEYBOARD     (FLATCABLE 26P)                 1.861.746.00
                           3   8   1   1                            DATA MP AMPLIF (FLATCAB. SOLD. 26P)                  1.861.745.00
                           3   8   1   3                            DATA MP AMPLIF (FLATCAB. SOLD. 26P)                  1.861.745.00
                           3   9   1  14                            DATA DP PROC   (FLATCAB. SOLD. 26P.)                 1.861.741.00
                           3   9   1  16                            DATA DP PROC   (FLATCAB. SOLD. 26P.)                 1.861.741.00
                           3   9   1  18                            DATA DP PROC   (FLATCAB. SOLD. 26P.)                 1.861.741.00
                           3   9   1  20                            DATA DP PROC   (FLATCAB. SOLD. 26P.)                 1.861.741.00
                           3   9   1  22                            DATA DP PROC   (FLATCAB. SOLD. 26P.)                 1.861.741.00
                           3   9   1  24                            DATA DP PROC   (FLATCAB. SOLD. 26P.)                 1.861.741.00
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*    WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T                * 86/12/08  *  10:54  *   P A G E  98   *
*********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                           * 86/08/27 - 00                        *
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SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                    REMARK     ELEMENT NR.
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<<-- CONT.OF              3   9   1  26                           DATA OP PROC  (FLATCAB. SOLC. 26P.)                     1.861.741.00
+0.0                      3  10   2   1                           POWER CCP TRANSC. (FLTCAB.SOLD.10P)                     1.861.744.00
                          3  10   2   3                           POWER CCP TRANSC. (FLTCAB.SOLD.10P)                     1.861.744.00
                          3  10   2   5                           POWER CCP TRANSC. (FLTCAB.SOLD.10P)                     1.861.744.00
                          3  10   2   7                           POWER CCP TRANSC. (FLTCAB.SOLD.10P)                     1.861.744.00
                          3  10   2   9                           POWER CCP TRANSC. (FLTCAB.SOLD.10P)                     1.861.744.00
                          5   3   1  18                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
                          5   3   1  19                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
                          5   3   1  20                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
                          5   3   1  21                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
                         11  20  32   1                           TO ASSY1. GR80. EL21            P24
                         11  20  32   3                           TO ASSY1. GR80. EL21            P24
                         11  20  32   5                           TO ASSY1. GR80. EL21            P24
                         11  20  32   7                           TO ASSY1. GR80. EL21            P24
                         11  20  32   9                           TO ASSY1. GR80. EL21            P24
                         11  20  32  11                           TO ASSY1. GR80. EL21            P24
                         11  20  32  13                           TO ASSY1. GR80. EL21            P24
                         11  20  32  15                           TO ASSY1. GR80. EL21            P24
                         11  20  32  17                           TO ASSY1. GR80. EL21            P24
                         11  20  32  19                           TO ASSY1. GR80. EL21            P24
                         11  20  32  21                           TO ASSY1. GR80. EL21            P24
                         11  20  32  23                           TO ASSY1. GR80. EL21            P24
                         11  20  32  25                           TO ASSY1. GR80. EL21            P24
                         11  20  33   1                           TO ASSY1. GR80. EL22            P25
                         11  20  33   3                           TO ASSY1. GR80. EL22            P25
                         11  20  33   5                           TO ASSY1. GR80. EL22            P25
                         11  20  33   7                           TO ASSY1. GR80. EL22            P25
                         11  20  33   9                           TO ASSY1. GR80. EL22            P25
                         11  20  33  11                           TO ASSY1. GR80. EL22            P25
                         11  20  33  13                           TO ASSY1. GR80. EL22            P25
                         11  20  33  15                           TO ASSY1. GR80. EL22            P25
                         11  20  33  17                           TO ASSY1. GR80. EL22            P25
                         11  20  33  19                           TO ASSY1. GR80. EL22            P25
                         11  20  33  21                           TO ASSY1. GR80. EL22            P25
                         11  20  33  23                           TO ASSY1. GR80. EL22            P25
                         11  20  33  25                           TO ASSY1. GR80. EL22            P25
                         11  20  51  16A                          MASTER SYSCON INTERFACE         J12                     1.861.721.00
                         11  20  51  16B                          MASTER SYSCON INTERFACE         J12                     1.861.721.00
-----------   -----  --  ---------------  -  --  ---------------  ----------------------------------------  --------   --------------
+0.0SENS      0          11  19   1  22          F                FROM GRP32. ELM02               J01
              0          11  19   2  22          M                TO GRP21. ELM02                 P01
              0          11  20  61   5          L                WIRE FIELD (FROM GRP20. ELM70)
              0          11  20  70  22          F                FROM GRP21. ELM01               J13
                         11  32   2  22          M                OUTPUT                          P01
-----------   -----  --  ---------------  -  --  ---------------  ----------------------------------------  --------   --------------
+0V-                      1  73   2  10                           BOX-RACK 2 (RACK)     (25 PIN D-SUB)                    1.861.583.00
                          1  73   2  11                           BOX-RACK 2 (RACK)     (25 PIN D-SUB)                    1.861.583.00
                          1  73   2  12                           BOX-RACK 2 (RACK)     (25 PIN D-SUB)                    1.861.583.00
                          1  73   2  13                           BOX-RACK 2 (RACK)     (25 PIN D-SUB)                    1.861.583.00
                          1  80  15  10                           BOX-RACK 2 TO REAR PANEL TD                             1.861.583.00
                          1  80  15  11                           BOX-RACK 2 TO REAR PANEL TD                             1.861.583.00
                          1  80  15  12                           BOX-RACK 2 TO REAR PANEL TD                             1.861.583.00
                          1  80  15  13                           BOX-RACK 2 TO REAR PANEL TD                             1.861.583.00
                          4   1   1  1A                           ANALOG OUTPUT                                           1.861.751.00
                                                                                                                                    ./.
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*********************************************************************************************************************************
*    WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T                * 86/12/08  *  10:54  *   P A G E  99   *
*********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                           * 86/08/27 - 00                        *
*********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                    REMARK     ELEMENT NR.
-----------   -----  --  ---------------  -  --  ---------------  ----------------------------------------  --------   --------------
<<-- CONT.OF              4   1   1  1B                           ANALOG OUTPUT                                           1.861.751.00
+0V-                      4   1   1  1C                           ANALOG OUTPUT                                           1.861.751.00
                          4   1   1  2A                           ANALOG OUTPUT                                           1.861.751.00
                          4   1   1  2B                           ANALOG OUTPUT                                           1.861.751.00
                          4   1   1  2C                           ANALOG OUTPUT                                           1.861.751.00
                          4   1   1  3A                           ANALOG OUTPUT                                           1.861.751.00
                          4   1   1  3B                           ANALOG OUTPUT                                           1.861.751.00
                          4   1   1  3C                           ANALOG OUTPUT                                           1.861.751.00
                          4   1   1  32A                          ANALOG OUTPUT                                           1.861.751.00
                          4   1   1  32B                          ANALOG OUTPUT                                           1.861.751.00
                          4   1   1  32C                          ANALOG OUTPUT                                           1.861.751.00
                          4   1   2  1A                           ANALOG INPUT                                            1.861.752.00
                          4   1   2  1B                           ANALOG INPUT                                            1.861.752.00
                          4   1   2  1C                           ANALOG INPUT                                            1.861.752.00
                          4   1   2  2A                           ANALOG INPUT                                            1.861.752.00
                          4   1   2  2B                           ANALOG INPUT                                            1.861.752.00
                          4   1   2  2C                           ANALOG INPUT                                            1.861.752.00
                          4   1   2  3A                           ANALOG INPUT                                            1.861.752.00
                          4   1   2  3B                           ANALOG INPUT                                            1.861.752.00
                          4   1   2  3C                           ANALOG INPUT                                            1.861.752.00
                          4   1   2  32A                          ANALOG INPUT                                            1.861.752.00
                          4   1   2  32B                          ANALOG INPUT                                            1.861.752.00
                          4   1   2  32C                          ANALOG INPUT                                            1.861.752.00
                          4   1   3  1A                           SPARE 1
                          4   1   3  1B                           SPARE 1
                          4   1   3  1C                           SPARE 1
                          4   1   3  2A                           SPARE 1
                          4   1   3  2B                           SPARE 1
                          4   1   3  2C                           SPARE 1
                          4   1   3  3A                           SPARE 1
                          4   1   3  3B                           SPARE 1
                          4   1   3  3C                           SPARE 1
                          4   1   3  30A                          SPARE 1
                          4   1   3  30B                          SPARE 1
                          4   1   3  30C                          SPARE 1
                          4   1   3  31A                          SPARE 1
                          4   1   3  31B                          SPARE 1
                          4   1   3  31C                          SPARE 1
                          4   1   3  32A                          SPARE 1
                          4   1   3  32B                          SPARE 1
                          4   1   3  32C                          SPARE 1
                          4   1   4  1A                           GAINS CONTROL                                           1.861.853.00
                          4   1   4  1B                           GAINS CONTROL                                           1.861.853.00
                          4   1   4  1C                           GAINS CONTROL                                           1.861.853.00
                          4   1   4  2A                           GAINS CONTROL                                           1.861.853.00
                          4   1   4  2B                           GAINS CONTROL                                           1.861.853.00
                          4   1   4  2C                           GAINS CONTROL                                           1.861.853.00
                          4   1   4  3A                           GAINS CONTROL                                           1.861.853.00
                          4   1   4  3B                           GAINS CONTROL                                           1.861.853.00
                          4   1   4  3C                           GAINS CONTROL                                           1.861.853.00
                          4   1   4  30A                          GAINS CONTROL                                           1.861.853.00
                          4   1   4  30B                          GAINS CONTROL                                           1.861.853.00
                          4   1   4  30C                          GAINS CONTROL                                           1.861.853.00
                          4   1   4  31A                          GAINS CONTROL                                           1.861.853.00
                                                                                                                                    ./.
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**************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                 *  86/12/08  *  10:54  *   P A G E 100   *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                *  86/08/27 - 00                         *
**************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE          DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
-----------  -----  --  ---------------  -  --  ------------  ----------------------------------  --------   -------------
<<-- CONT.OF             4   1   4  31B                       GAINS CONTROL                                 1.861.853.00
+OV-                     4   1   4  31C                       GAINS CONTROL                                 1.861.853.00
                         4   1   4  32A                       GAINS CONTROL                                 1.861.853.00
                         4   1   4  32B                       GAINS CONTROL                                 1.861.853.00
                         4   1   4  32C                       GAINS CONTROL                                 1.861.853.00
                         4   1   5   1A                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5   1B                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5   1C                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5   2A                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5   2B                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5   2C                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5   3A                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5   3B                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5   3C                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5  30A                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5  30B                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5  30C                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5  31A                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5  31B                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5  31C                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5  32A                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5  32B                       DAPRO INTERFACE                               1.861.854.00
                         4   1   5  32C                       DAPRO INTERFACE                               1.861.854.00
                         4   1   6   1A                       DATA PROCESSOR                                1.861.855.00
                         4   1   6   1B                       DATA PROCESSOR                                1.861.855.00
                         4   1   6   1C                       DATA PROCESSOR                                1.861.855.00
                         4   1   6   2A                       DATA PROCESSOR                                1.861.855.00
                         4   1   6   2B                       DATA PROCESSOR                                1.861.855.00
                         4   1   6   2C                       DATA PROCESSOR                                1.861.855.00
                         4   1   6   3A                       DATA PROCESSOR                                1.861.855.00
                         4   1   6   3B                       DATA PROCESSOR                                1.861.855.00
                         4   1   6   3C                       DATA PROCESSOR                                1.861.855.00
                         4   1   6  30A                       DATA PROCESSOR                                1.861.855.00
                         4   1   6  30B                       DATA PROCESSOR                                1.861.855.00
                         4   1   6  30C                       DATA PROCESSOR                                1.861.855.00
                         4   1   6  31A                       DATA PROCESSOR                                1.861.855.00
                         4   1   6  31B                       DATA PROCESSOR                                1.861.855.00
                         4   1   6  31C                       DATA PROCESSOR                                1.861.855.00
                         4   1   6  32A                       DATA PROCESSOR                                1.861.855.00
                         4   1   6  32B                       DATA PROCESSOR                                1.861.855.00
                         4   1   6  32C                       DATA PROCESSOR                                1.861.855.00
                         4   1   7   1A                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7   1B                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7   1C                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7   2A                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7   2B                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7   2C                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7   3A                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7   3B                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7   3C                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7  30A                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7  30B                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7  30C                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7  31A                       COEFFICIENT GENERATOR                         1.861.856.00
                                                                                                                     ./.
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**************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                 *  86/12/08  *  10:54  *   P A G E 101   *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                *  86/08/27 - 00                         *
**************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE          DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
-----------  -----  --  ---------------  -  --  ------------  ----------------------------------  --------   -------------
<<-- CONT.OF             4   1   7  31B                       COEFFICIENT GENERATOR                         1.861.856.00
+OV-                     4   1   7  31C                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7  32A                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7  32B                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   7  32C                       COEFFICIENT GENERATOR                         1.861.856.00
                         4   1   8   1A                       CODEC CONTROL                                 1.861.857.00
                         4   1   8   1B                       CODEC CONTROL                                 1.861.857.00
                         4   1   8   1C                       CODEC CONTROL                                 1.861.857.00
                         4   1   8   2A                       CODEC CONTROL                                 1.861.857.00
                         4   1   8   2B                       CODEC CONTROL                                 1.861.857.00
                         4   1   8   2C                       CODEC CONTROL                                 1.861.857.00
                         4   1   8   3A                       CODEC CONTROL                                 1.861.857.00
                         4   1   8   3B                       CODEC CONTROL                                 1.861.857.00
                         4   1   8   3C                       CODEC CONTROL                                 1.861.857.00
                         4   1   8  30A                       CODEC CONTROL                                 1.861.857.00
                         4   1   8  30B                       CODEC CONTROL                                 1.861.857.00
                         4   1   8  30C                       CODEC CONTROL                                 1.861.857.00
                         4   1   8  31A                       CODEC CONTROL                                 1.861.857.00
                         4   1   8  31B                       CODEC CONTROL                                 1.861.857.00
                         4   1   8  31C                       CODEC CONTROL                                 1.861.857.00
                         4   1   8  32A                       CODEC CONTROL                                 1.861.857.00
                         4   1   8  32B                       CODEC CONTROL                                 1.861.857.00
                         4   1   8  32C                       CODEC CONTROL                                 1.861.857.00
                         4   1   9   1A                       CODEC MEMORY                                  1.861.858.00
                         4   1   9   1B                       CODEC MEMORY                                  1.861.858.00
                         4   1   9   1C                       CODEC MEMORY                                  1.861.858.00
                         4   1   9   2A                       CODEC MEMORY                                  1.861.858.00
                         4   1   9   2B                       CODEC MEMORY                                  1.861.858.00
                         4   1   9   2C                       CODEC MEMORY                                  1.861.858.00
                         4   1   9   3A                       CODEC MEMORY                                  1.861.858.00
                         4   1   9   3B                       CODEC MEMORY                                  1.861.858.00
                         4   1   9   3C                       CODEC MEMORY                                  1.861.858.00
                         4   1   9  30A                       CODEC MEMORY                                  1.861.858.00
                         4   1   9  30B                       CODEC MEMORY                                  1.861.858.00
                         4   1   9  30C                       CODEC MEMORY                                  1.861.858.00
                         4   1   9  31A                       CODEC MEMORY                                  1.861.858.00
                         4   1   9  31B                       CODEC MEMORY                                  1.861.858.00
                         4   1   9  31C                       CODEC MEMORY                                  1.861.858.00
                         4   1   9  32A                       CODEC MEMORY                                  1.861.858.00
                         4   1   9  32B                       CODEC MEMORY                                  1.861.858.00
                         4   1   9  32C                       CODEC MEMORY                                  1.861.858.00
                         4   1  10   1A                       TRANSFORMATTER                                1.861.859.00
                         4   1  10   1B                       TRANSFORMATTER                                1.861.859.00
                         4   1  10   1C                       TRANSFORMATTER                                1.861.859.00
                         4   1  10   2A                       TRANSFORMATTER                                1.861.859.00
                         4   1  10   2B                       TRANSFORMATTER                                1.861.859.00
                         4   1  10   2C                       TRANSFORMATTER                                1.861.859.00
                         4   1  10   3A                       TRANSFORMATTER                                1.861.859.00
                         4   1  10   3B                       TRANSFORMATTER                                1.861.859.00
                         4   1  10   3C                       TRANSFORMATTER                                1.861.859.00
                         4   1  10  30A                       TRANSFORMATTER                                1.861.859.00
                         4   1  10  30B                       TRANSFORMATTER                                1.861.859.00
                         4   1  10  30C                       TRANSFORMATTER                                1.861.859.00
                         4   1  10  31A                       TRANSFORMATTER                                1.861.859.00
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*************************************************************************************************************************************
*     WILLI STUDER AG    *     S  I  G  N  A  L      W  I  R  E      L  I  S  T                  *  86/12/08  *  10:54  *    P A G E 102    *
*************************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                                   *  86/08/27 - 00                           *
*************************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE                DESCRIPTION OF ELEMENT            REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  ---------------     --------------------------------  ---------  ------------
<<-- CONT.OF               4   1  10  31B                            TRANSFORMATTER                               1.861.859.00
+0V-                       4   1  10  31C                            TRANSFORMATTER                               1.861.859.00
                           4   1  10  32A                            TRANSFORMATTER                               1.861.859.00
                           4   1  10  32B                            TRANSFORMATTER                               1.861.859.00
                           4   1  10  32C                            TRANSFORMATTER                               1.861.859.00
                           4   1  11   1A                            RUN PROCESSOR                                1.861.860.00
                           4   1  11   1B                            RUN PROCESSOR                                1.861.860.00
                           4   1  11   1C                            RUN PROCESSOR                                1.861.860.00
                           4   1  11   2A                            RUN PROCESSOR                                1.861.860.00
                           4   1  11   2B                            RUN PROCESSOR                                1.861.860.00
                           4   1  11   2C                            RUN PROCESSOR                                1.861.860.00
                           4   1  11   3A                            RUN PROCESSOR                                1.861.860.00
                           4   1  11   3B                            RUN PROCESSOR                                1.861.860.00
                           4   1  11   3C                            RUN PROCESSOR                                1.861.860.00
                           4   1  11  30A                            RUN PROCESSOR                                1.861.860.00
                           4   1  11  30B                            RUN PROCESSOR                                1.861.860.00
                           4   1  11  30C                            RUN PROCESSOR                                1.861.860.00
                           4   1  11  31A                            RUN PROCESSOR                                1.861.860.00
                           4   1  11  31B                            RUN PROCESSOR                                1.861.860.00
                           4   1  11  31C                            RUN PROCESSOR                                1.861.860.00
                           4   1  11  32A                            RUN PROCESSOR                                1.861.860.00
                           4   1  11  32B                            RUN PROCESSOR                                1.861.860.00
                           4   1  11  32C                            RUN PROCESSOR                                1.861.860.00
                           4   1  12   1A                            RT/TC CODEC                                  1.861.861.00
                           4   1  12   1B                            RT/TC CODEC                                  1.861.861.00
                           4   1  12   1C                            RT/TC CODEC                                  1.861.861.00
                           4   1  12   2A                            RT/TC CODEC                                  1.861.861.00
                           4   1  12   2B                            RT/TC CODEC                                  1.861.861.00
                           4   1  12   2C                            RT/TC CODEC                                  1.861.861.00
                           4   1  12   3A                            RT/TC CODEC                                  1.861.861.00
                           4   1  12   3B                            RT/TC CODEC                                  1.861.861.00
                           4   1  12   3C                            RT/TC CODEC                                  1.861.861.00
                           4   1  12  30A                            RT/TC CODEC                                  1.861.861.00
                           4   1  12  30B                            RT/TC CODEC                                  1.861.861.00
                           4   1  12  30C                            RT/TC CODEC                                  1.861.861.00
                           4   1  12  31A                            RT/TC CODEC                                  1.861.861.00
                           4   1  12  31B                            RT/TC CODEC                                  1.861.861.00
                           4   1  12  31C                            RT/TC CODEC                                  1.861.861.00
                           4   1  12  32A                            RT/TC CODEC                                  1.861.861.00
                           4   1  12  32B                            RT/TC CODEC                                  1.861.861.00
                           4   1  12  32C                            RT/TC CODEC                                  1.861.861.00
                           4   1  13   1A                            TIMING + TEST                                1.861.862.00
                           4   1  13   1B                            TIMING + TEST                                1.861.862.00
                           4   1  13   1C                            TIMING + TEST                                1.861.862.00
                           4   1  13   2A                            TIMING + TEST                                1.861.862.00
                           4   1  13   2B                            TIMING + TEST                                1.861.862.00
                           4   1  13   2C                            TIMING + TEST                                1.861.862.00
                           4   1  13   3A                            TIMING + TEST                                1.861.862.00
                           4   1  13   3B                            TIMING + TEST                                1.861.862.00
                           4   1  13   3C                            TIMING + TEST                                1.861.862.00
                           4   1  13  30A                            TIMING + TEST                                1.861.862.00
                           4   1  13  30B                            TIMING + TEST                                1.861.862.00
                           4   1  13  30C                            TIMING + TEST                                1.861.862.00
                           4   1  13  31A                            TIMING + TEST                                1.861.862.00
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*************************************************************************************************************************************
*     WILLI STUDER AG    *     S  I  G  N  A  L      W  I  R  E      L  I  S  T                  *  86/12/08  *  10:54  *    P A G E 103    *
*************************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                                   *  86/08/27 - 00                           *
*************************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE                DESCRIPTION OF ELEMENT            REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  ---------------     --------------------------------  ---------  ------------
<<-- CONT.OF               4   1  13  31B                            TIMING + TEST                                1.861.862.00
+0V-                       4   1  13  31C                            TIMING + TEST                                1.861.862.00
                           4   1  13  32A                            TIMING + TEST                                1.861.862.00
                           4   1  13  32B                            TIMING + TEST                                1.861.862.00
                           4   1  13  32C                            TIMING + TEST                                1.861.862.00
                           4   1  14   1A                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14   1B                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14   1C                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14   2A                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14   2B                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14   2C                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14   3A                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14   3B                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14   3C                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14  30A                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14  30B                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14  30C                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14  31A                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14  31B                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14  31C                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14  32A                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14  32B                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  14  32C                            SYSTEM CONTROLLER 1                          1.861.763.00
                           4   1  15   1A                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15   1B                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15   1C                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15   2A                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15   2B                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15   2C                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15   3A                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15   3B                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15   3C                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15  30A                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15  30B                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15  30C                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15  31A                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15  31B                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15  31C                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15  32A                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15  32B                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  15  32C                            SYSTEM CONTROLLER 2                          1.861.763.00
                           4   1  21    7                            CONNECTOR 6            (TERMINAL)
                           4   1  22   10                            CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  22   11                            CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  22   12                            CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  22   13                            CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  23   2A                            POWER SUPPLY                                 1.861.515.00
                           4   1  23   2B                            POWER SUPPLY                                 1.861.515.00
                           4   1  23   2C                            POWER SUPPLY                                 1.861.515.00
                           4   1  23   4A                            POWER SUPPLY                                 1.861.515.00
                           4   1  23   4B                            POWER SUPPLY                                 1.861.515.00
                           4   1  23   4C                            POWER SUPPLY                                 1.861.515.00
                           4   1  23  16A                            POWER SUPPLY                                 1.861.515.00
                           4   1  23  16B                            POWER SUPPLY                                 1.861.515.00
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***********************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                            *  86/12/08  *  10:54  *   P A G E 104   *
***********************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                             *  86/08/27 - 00                          *
***********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                        REMARK     ELEMENT NR.
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<<-- CONT.OF               4   1  23 16C                         POWER SUPPLY                                             1.861.515.00
+0V-                       4   1  23 30A                         POWER SUPPLY                                             1.861.515.00
                           4   1  23 30B                         POWER SUPPLY                                             1.861.515.00
                           4   1  23 30C                         POWER SUPPLY                                             1.861.515.00
                           4   1  23 32A                         POWER SUPPLY                                             1.861.515.00
                           4   1  23 32B                         POWER SUPPLY                                             1.861.515.00
                           4   1  23 32C                         POWER SUPPLY                                             1.861.515.00
                           4   1  51  10                         BOX-RACK 2 CONNECTOR         (CABLE)
                           4   1  51  11                         BOX-RACK 2 CONNECTOR         (CABLE)
                           4   1  51  12                         BOX-RACK 2 CONNECTOR         (CABLE)
                           4   1  51  13                         BOX-RACK 2 CONNECTOR         (CABLE)
                           4   3  12   7                         TEST (TERMINAL)              (RS232)
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+10                        2   1   4 16A                         DETECTOR                                                 1.861.804.00
                           2   1   4 16B                         DETECTOR                                                 1.861.804.00
                           2   1   4 16C                         DETECTOR                                                 1.861.804.00
                           2   1   5 16A                         WRITE AMPLIFIER                                          1.861.803.00
                           2   1   5 16B                         WRITE AMPLIFIER                                          1.861.803.00
                           2   1   5 16C                         WRITE AMPLIFIER                                          1.861.803.00
                           2   1   6 16A                         TAPE DECK MONITOR                                        1.861.802.00
                           2   1   6 16B                         TAPE DECK MONITOR                                        1.861.802.00
                           2   1   6 16C                         TAPE DECK MONITOR                                        1.861.802.00
                           2   1   7 16A                         PLAYBACK AMPLIFIER                                       1.861.801.00
                           2   1   7 16B                         PLAYBACK AMPLIFIER                                       1.861.801.00
                           2   1   7 16C                         PLAYBACK AMPLIFIER                                       1.861.801.00
                           2   3   1  13                         HEADBLOCK READ (P4)     (D-SUB 25P)                      1.861.801.00
                           2   3   1  14                         HEADBLOCK READ (P4)     (D-SUB 25P)                      1.861.801.00
                           2   3   1  15                         HEADBLOCK READ (P4)     (D-SUB 25P)                      1.861.801.00
                           2   3   1  16                         HEADBLOCK READ (P4)     (D-SUB 25P)                      1.861.801.00
                           2   3   1  17                         HEADBLOCK READ (P4)     (D-SUB 25P)                      1.861.801.00
                           5   3   1  13                         HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                      1.861.805.00
                           5   3   1  14                         HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                      1.861.805.00
                           5   3   1  15                         HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                      1.861.805.00
                           5   3   1  16                         HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                      1.861.805.00
                           5   3   1  17                         HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                      1.861.805.00
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+15.0         2            1  79   1  11                         POWER CONNECTOR  (24 PIN MOLEX FEM)
              2            1  79   2  11                         POWER CONNECTOR (24 PIN MOLEX MALE)
                           1  79   3   5                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3   6                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3  17                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3  18                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3  19                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   4   8                         POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  79   4   9                         POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  79   4  20                         POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  79   4  21                         POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  80   1 16A                         CUE/PQ DELAY                                             1.861.816.00
                           1  80   1 16B                         CUE/PQ DELAY                                             1.861.816.00
                           1  80   1 16C                         CUE/PQ DELAY                                             1.861.816.00
                           1  80   2 16A                         PDM MODULATOR                                            1.861.811.00
                           1  80   2 16B                         PDM MODULATOR                                            1.861.811.00
                           1  80   2 16C                         PDM MODULATOR                                            1.861.811.00
                           1  80   3 16A                         PDM DEMODULATOR 1                                        1.861.812.00
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*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                            *  86/12/08  *  10:54  *   P A G E 105   *
***********************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                             *  86/08/27 - 00                          *
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SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                        REMARK     ELEMENT NR.
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<<-- CONT.OF               1  80   3 16B                         PDM DEMODULATOR 1                                        1.861.812.00
+15.0                      1  80   3 16C                         PDM DEMODULATOR 1                                        1.861.812.00
                           1  80   4 16A                         PDM DEMODULATOR 2                                        1.861.812.00
                           1  80   4 16B                         PDM DEMODULATOR 2                                        1.861.812.00
                           1  80   4 16C                         PDM DEMODULATOR 2                                        1.861.812.00
                           1  80   5 16A                         SPARE 1                                                  1.861.815.00
                           1  80   5 16B                         SPARE 1                                                  1.861.815.00
                           1  80   5 16C                         SPARE 1                                                  1.861.815.00
                           1  80   6 16A                         ANALOG ROUTING                                           1.861.814.00
                           1  80   6 16B                         ANALOG ROUTING                                           1.861.814.00
                           1  80   6 16C                         ANALOG ROUTING                                           1.861.814.00
                           1  80   7 16A                         PDM CONTROL                                              1.861.813.00
                           1  80   7 16B                         PDM CONTROL                                              1.861.813.00
                           1  80   7 16C                         PDM CONTROL                                              1.861.813.00
                           1  80   8 16A                         DISPLAY INTERFACE                                        1.861.817.00
                           1  80   8 16B                         DISPLAY INTERFACE                                        1.861.817.00
                           1  80   8 16C                         DISPLAY INTERFACE                                        1.861.817.00
                           1  80   9 16A                         SPARE 2
                           1  80   9 16B                         SPARE 2
                           1  80   9 16C                         SPARE 2
                           1  80  13   8                         RACK PWR CONNECTOR    (25 PIN D-SUB)
                           1  80  13   9                         RACK PWR CONNECTOR    (25 PIN D-SUB)
                           1  80  13  20                         RACK PWR CONNECTOR    (25 PIN D-SUB)
                           1  80  13  21                         RACK PWR CONNECTOR    (25 PIN D-SUB)
              3            1  80  19   9                         RACK-MONITOR PANEL     (D-SUB CRIMP)
              3            1  80  19  10                         RACK-MONITOR PANEL     (D-SUB CRIMP)
              3            1  80  19  11                         RACK-MONITOR PANEL     (D-SUB CRIMP)
                           2   1   2   5                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   2   6                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   2  17                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   2  18                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   2  19                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   6 17A                         TAPE DECK MONITOR                                        1.861.802.00
                           2   1   6 17B                         TAPE DECK MONITOR                                        1.861.802.00
                           2   1   6 17C                         TAPE DECK MONITOR                                        1.861.802.00
                           2   1   7 17A                         PLAYBACK AMPLIFIER                                       1.861.801.00
                           2   1   7 17B                         PLAYBACK AMPLIFIER                                       1.861.801.00
                           2   1   7 17C                         PLAYBACK AMPLIFIER                                       1.861.801.00
                           3   3   1   9                         CBUS REARPANEL RACK     (D-SUB 25P M)                    1.861.744.00
                           3   3   1  10                         CBUS REARPANEL RACK     (D-SUB 25P M)                    1.861.744.00
                           3   3   1  11                         CBUS REARPANEL RACK     (D-SUB 25P M)                    1.861.744.00
              2           11  19   1  11          F              FROM GRP32, ELM02                J01
              2           11  19   2  11          M              TO GRP21, ELM02                  P01
                          11  20   1   5                         SPOOLING MOTOR DRIVE AMP. LEFT   P01
                          11  20   2   5                         SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                          11  20   3   5                         CAPSTAN MOTOR DRIVE AMPLIFIER    P03
                          11  20   4   5                         PAR. CONT. INT. SYNCHRONIZER     P04
                          11  20   5   5                         SPOOLING MOTOR SUPPLY            P05
                          11  20   6   5                         EXT. SENSORS                     P06
                          11  20   9   5                         TACHO SENSOR (SPOOLING M. LEFT)  P09
                          11  20  10   5                         TACHO SENSOR (SPOOLING M. RIGHT) P10
                          11  20  11   5                         MOVE SENSOR                      P11
                          11  20  12   5                         TAPE TENSION SENSOR, LEFT        P12
                          11  20  13   5                         TAPE TENSION SENSOR, RIGHT       P13
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*     WILLI STUDER AG    *     S   I   G   N   A   L      W   I   R   E      L   I   S   T           *  86/12/08  *  10:54  *  P A G E 106  *
*******************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                                      *  86/08/27 - 00                  *
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SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
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<<-- CONT.OF              11  20  14  14                         FUSE FAILURE DETECTOR         P14
+15.0                     11  20  17   5                         TO HEAD BLOCK ASSEMBLY        P17
                          11  20  18   5                         VU-METER PANEL. EXTERNAL      P18
                          11  20  19   5                         SOURCE SELECTOR               P19
                          11  20  40  18                         SPOOLING MOTOR DRIVER         J01                  1.820.759.00
                          11  20  41  18                         CAPSTAN CONTROL UNIT          J02                  1.820.764.00
                          11  20  42 15A                         CAPSTAN INTERFACE             J03                  1.820.727.00
                          11  20  42 15B                         CAPSTAN INTERFACE             J03                  1.820.727.00
                          11  20  43 15A                         TAPE DECK PERIPHERY CONTR.    J04                  1.820.762.00
                          11  20  43 15B                         TAPE DECK PERIPHERY CONTR.    J04                  1.820.762.00
                          11  20  44  18                         TAPE DECK COUNTER / TIMER     J05                  1.820.761.00
                          11  20  45  18                         SPOOLING MOTOR CONTROLLER     J06                  1.820.760.00
                          11  20  47  18                         TAPE DECK SERIAL INTERFACE    J08                  1.820.763.00
                          11  20  48 15A                         MASTER SERIAL INTERFACE       J09                  1.820.753.00
                          11  20  48 15B                         MASTER SERIAL INTERFACE       J09                  1.820.753.00
                          11  20  50  18                         SMPTE/EBU INTERFACE           J11                  1.820.751.00
              2           11  20  61  10         L               WIRE FIELD (FROM GRP20. ELM70)
              2           11  20  70  11         F               FROM GRP21. ELM01             J13
                          11  30   2   5                         FROM GRP20. ELM02             P01
                          11  31   3   5                         FROM GRP20. ELM05             P02
                          11  32   2  11         M               OUTPUT                        P01
                          11  33   2   5                         FROM GRP20. ELM01             P01
                          11  36   1   5                         TACHO SENSOR                  P01                  1.820.771.00
                          11  37   1   5                         TACHO SENSOR                  P01                  1.820.771.00
                          11  38   1   6         F               FROM GRP39. ELM02             J01
                          11  39   1   5                         FROM GRP20. ELM03             P01
                          11  39   2   6         M               TO GRP38. ELM01               P02
                          11  42   1   5                         FROM GRP20. ELM12             P01
                          11  43   1   5                         FROM GRP20. ELM13             P01
                          11  44   1   5                         FROM GRP20. ELM06             P01
                          11  45   1   5                         FROM GRP20. ELM11             P01
                          11  59   1  14                         FROM GRP20. ELM14             P01
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+20                        4   1   1 21A                         ANALOG OUTPUT                                      1.861.751.00
                           4   1   1 21B                         ANALOG OUTPUT                                      1.861.751.00
                           4   1   1 21C                         ANALOG OUTPUT                                      1.861.751.00
                           4   1   2 21A                         ANALOG INPUT                                       1.861.752.00
                           4   1   2 21B                         ANALOG INPUT                                       1.861.752.00
                           4   1   2 21C                         ANALOG INPUT                                       1.861.752.00
                           4   1   4 23C                         GAINS CONTROL                                      1.861.853.00
                           4   1  12 20A                         RT/TC CODEC                                        1.861.861.00
                           4   1  12 20B                         RT/TC CODEC                                        1.861.861.00
                           4   1  12 20C                         RT/TC CODEC                                        1.861.861.00
                           4   1  13 21A                         TIMING + TEST                                      1.861.862.00
                           4   1  13 21B                         TIMING + TEST                                      1.861.862.00
                           4   1  13 21C                         TIMING + TEST                                      1.861.862.00
                           4   1  14 26A                         SYSTEM CONTROLLER 1                                1.861.763.00
                           4   1  15 26A                         SYSTEM CONTROLLER 2                                1.861.763.00
                           4   1  23 22A                         POWER SUPPLY                                       1.861.515.00
                           4   1  23 22B                         POWER SUPPLY                                       1.861.515.00
                           4   1  23 22C                         POWER SUPPLY                                       1.861.515.00
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*     WILLI STUDER AG    *     S   I   G   N   A   L      W   I   R   E      L   I   S   T           *  86/12/08  *  10:54  *  P A G E 107  *
*******************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                                      *  86/08/27 - 00                  *
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SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
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+20PC                      1  73   2  22                         BOX-RACK 2 (RACK)    (25 PIN D-SUB)                1.861.583.00
                           1  73   2  23                         BOX-RACK 2 (RACK)    (25 PIN D-SUB)                1.861.583.00
                           1  73   2  24                         BOX-RACK 2 (RACK)    (25 PIN D-SUB)                1.861.583.00
                           1  73   2  25                         BOX-RACK 2 (RACK)    (25 PIN D-SUB)                1.861.583.00
                           1  74   1  19                         RACK-CCP/DP          (25-PIN D-SUB)                1.861.000.00
                           1  74   1  20                         RACK-CCP/DP          (25-PIN D-SUB)                1.861.000.00
                           1  74   1  21                         RACK-CCP/DP          (25-PIN D-SUB)                1.861.000.00
                           1  74   1  22                         RACK-CCP/DP          (25-PIN D-SUB)                1.861.000.00
                           1  74   1  23                         RACK-CCP/DP          (25-PIN D-SUB)                1.861.000.00
                           1  74   1  24                         RACK-CCP/DP          (25-PIN D-SUB)                1.861.000.00
                           1  74   1  25                         RACK-CCP/DP          (25-PIN D-SUB)                1.861.000.00
                           1  79   4   4                         POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  79   4   5                         POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  79   4  16                         POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  79   4  17                         POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  80  13   4                         RACK PWR CONNECTOR   (25 PIN D-SUB)
                           1  80  13   5                         RACK PWR CONNECTOR   (25 PIN D-SUB)
                           1  80  13  16                         RACK PWR CONNECTOR   (25 PIN D-SUB)
                           1  80  13  17                         RACK PWR CONNECTOR   (25 PIN D-SUB)
                           1  80  15  22                         BOX-RACK 2 TO REAR PANEL TD                        1.861.583.00
                           1  80  15  23                         BOX-RACK 2 TO REAR PANEL TD                        1.861.583.00
                           1  80  15  24                         BOX-RACK 2 TO REAR PANEL TD                        1.861.583.00
                           1  80  15  25                         BOX-RACK 2 TO REAR PANEL TD                        1.861.583.00
                           1  80  18  19                         DISPLAY PANEL/CCP    (25 PIN D-SUB)
                           1  80  18  20                         DISPLAY PANEL/CCP    (25 PIN D-SUB)
                           1  80  18  21                         DISPLAY PANEL/CCP    (25 PIN D-SUB)
                           1  80  18  22                         DISPLAY PANEL/CCP    (25 PIN D-SUB)
                           1  80  18  23                         DISPLAY PANEL/CCP    (25 PIN D-SUB)
                           1  80  18  24                         DISPLAY PANEL/CCP    (25 PIN D-SUB)
                           1  80  18  25                         DISPLAY PANEL/CCP    (25 PIN D-SUB)
                           3   1   1  19                         CBUS CCP TRANSCEIVER (D-SUB 25P F)       0        1.861.742.00
                           3   1   1  20                         CBUS CCP TRANSCEIVER (D-SUB 25P F)       0        1.861.742.00
                           3   1   1  21                         CBUS CCP TRANSCEIVER (D-SUB 25P F)       0        1.861.742.00
                           3   1   1  22                         CBUS CCP TRANSCEIVER (D-SUB 25P F)       0        1.861.742.00
                           3   1   1  23                         CBUS CCP TRANSCEIVER (D-SUB 25P F)       0        1.861.742.00
                           3   1   1  24                         CBUS CCP TRANSCEIVER (D-SUB 25P F)       0        1.861.742.00
                           3   1   1  25                         CBUS CCP TRANSCEIVER (D-SUB 25P F)       0        1.861.742.00
                           3   2   1  19                         BUS REARPANEL TD     (D-SUB 25P M)                 1.861.744.00
                           3   2   1  20                         BUS REARPANEL TD     (D-SUB 25P M)                 1.861.744.00
                           3   2   1  21                         BUS REARPANEL TD     (D-SUB 25P M)                 1.861.744.00
                           3   2   1  22                         BUS REARPANEL TD     (D-SUB 25P M)                 1.861.744.00
                           3   2   1  23                         BUS REARPANEL TD     (D-SUB 25P M)                 1.861.744.00
                           3   2   1  24                         BUS REARPANEL TD     (D-SUB 25P M)                 1.861.744.00
                           3   2   1  25                         BUS REARPANEL TD     (D-SUB 25P M)                 1.861.744.00
                           3   2   2  19                         CBUS DP PROCESSOR    (D-SUB 25P F)                 1.861.744.00
                           3   2   2  20                         CBUS DP PROCESSOR    (D-SUB 25P F)                 1.861.744.00
                           3   2   2  21                         CBUS DP PROCESSOR    (D-SUB 25P F)                 1.861.744.00
                           3   2   2  22                         CBUS DP PROCESSOR    (D-SUB 25P F)                 1.861.744.00
                           3   2   2  23                         CBUS DP PROCESSOR    (D-SUB 25P F)                 1.861.744.00
                           3   2   2  24                         CBUS DP PROCESSOR    (D-SUB 25P F)                 1.861.744.00
                           3   2   2  25                         CBUS DP PROCESSOR    (D-SUB 25P F)                 1.861.744.00
                           4   1  14 26B                         SYSTEM CONTROLLER 1                                1.861.763.00
                           4   1  15 26B                         SYSTEM CONTROLLER 2                                1.861.763.00
                           4   1  22  22                         CONNECTOR 7      (BACKPANEL RACK 2)
                           4   1  22  23                         CONNECTOR 7      (BACKPANEL RACK 2)
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*   WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T           *  86/12/08  *  10:54  *  P A G E 108  *
*************************************************************************************************************************
*          1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                     *
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SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
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<<-- CONT.OF              4   1  22  24                          CONNECTOR 7      (BACKPANEL RACK 2)
+20PC                     4   1  22  25                          CONNECTOR 7      (BACKPANEL RACK 2)
                          4   1  23  14A                         POWER SUPPLY                                      1.861.515.00
                          4   1  23  14B                         POWER SUPPLY                                      1.861.515.00
                          4   1  23  14C                         POWER SUPPLY                                      1.861.515.00
                          4   1  51  22                          BOX-RACK 2 CONNECTOR         (CABLE)
                          4   1  51  23                          BOX-RACK 2 CONNECTOR         (CABLE)
                          4   1  51  24                          BOX-RACK 2 CONNECTOR         (CABLE)
                          4   1  51  25                          BOX-RACK 2 CONNECTOR         (CABLE)
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+24.0        7            1  79   1  15                          POWER CONNECTOR  (24 PIN MOLEX FEM)
             7            1  79   2  15                          POWER CONNECTOR (24 PIN MOLEX MALE)
             7           11  19   1  15         F                FROM GRP32. ELM02              J01
             7           11  19   2  15         M                TO GRP21. ELM02                P01
                         11  20  14   4                          FUSE FAILURE DETECTOR          P14
                         11  20  15   5                          DISPLAY DRIVER                 P15
                         11  20  15   6                          DISPLAY DRIVER                 P15
                         11  20  17  24                          TO HEAD BLOCK ASSEMBLY         P17
                         11  20  18  24                          VU-METER PANEL. EXTERNAL       P18
             7           11  20  62  11         U                WIRE FIELD
             7           11  20  62  12         U                WIRE FIELD
             7           11  20  62  13         U                WIRE FIELD
             7           11  20  70  15         F                FROM GRP21. ELM01              J13
             7           11  20  72   1         F                TO BRAKE SOLENOID. LEFT
             7           11  20  73   1         F                TO BRAKE SOLENOID. RIGHT
                         11  32   2  15         M                OUTPUT                         P01
             7           11  40   1   1         M                BRAKE SOLENOID
             7           11  41   1   1         M                BRAKE SOLENOID
                         11  50   1   5                          FROM GRP20. ELM15              P01
                         11  50   1   6                          FROM GRP20. ELM15              P01
                         11  59   1   4                          FROM GRP20. ELM14              P01
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+24.0L                   11  48   1   5                          FROM GRP50. ELM03
                         11  48   3   1                          WIRE FIELD
                         11  48   3   2                          WIRE FIELD
                         11  50   3   5                          CONNECTOR PUSHBUTTON ASSEMBLY  P02
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+24.0REM                 11  25   2  25         B                CONNECTOR SYNCHRONIZER         J02
                         11  25   3  25         B                CONN. PARALLEL REMOTE CONTROL  J03
                         11  27   3  24                          TO CONNECTOR SYNCHRONIZER      P03
                         11  27   4  24                          TO CONN. PARALLEL REMOTE CONTR. P04
-----------  -----  --  ---------------  -  --  ---------------  ----------------------------------  ---------  ---------------
+26.0        1            1  79   1  20                          POWER CONNECTOR  (24 PIN MOLEX FEM)
             1            1  79   2  20                          POWER CONNECTOR (24 PIN MOLEX MALE)
             1           11  19   1  20         F                FROM GRP32. ELM02              J01
             1           11  19   2  20         M                TO GRP21. ELM02                P01
                         11  20   7   5                          TAPE LIFT MOTOR. LEFT          P07
                         11  20   8   5                          TAPE LIFT MOTOR. RIGHT         P08
                         11  20  14  15                          FUSE FAILURE DETECTOR          P14
             1           11  20  61   2         L                WIRE FIELD (FROM GRP20. ELM70)
             1           11  20  70  20         F                FROM GRP21. ELM01              J13
                         11  32   2  20         M                OUTPUT                         P01
                         11  46   1   5                          FROM GRP20. ELM07              P01
                         11  47   1   5                          FROM GRP20. ELM08              P01
                         11  59   1  15                          FROM GRP20. ELM14              P01
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*************************************************************************************************************************
*   WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T           *  86/12/08  *  10:54  *  P A G E 109  *
*************************************************************************************************************************
*          1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                     *
*************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
-----------  -----  --  ---------------  -  --  ---------------  ----------------------------------  ---------  ---------------
+5.0                      3   1   2   2                          DATA DP KEYBOARD    (FLATCABLE 26P)               1.861.742.00
                          3   1   2   4                          DATA DP KEYBOARD    (FLATCABLE 26P)               1.861.742.00
                          3   1   2   6                          DATA DP KEYBOARD    (FLATCABLE 26P)               1.861.742.00
                          3   1   2   8                          DATA DP KEYBOARD    (FLATCABLE 26P)               1.861.742.00
                          3   1   2  10                          DATA DP KEYBOARD    (FLATCABLE 26P)               1.861.742.00
                          3   1   2  12                          DATA DP KEYBOARD    (FLATCABLE 26P)               1.861.742.00
                          3   2   4   2                          POWER CCP KEYBOARD  (FLATCABEL 10P)               1.861.744.00
                          3   2   4   4                          POWER CCP KEYBOARD  (FLATCABEL 10P)               1.861.744.00
                          3   2   4   6                          POWER CCP KEYBOARD  (FLATCABEL 10P)               1.861.744.00
                          3   2   4   8                          POWER CCP KEYBOARD  (FLATCABEL 10P)               1.861.744.00
                          3   2   4  10                          POWER CCP KEYBOARD  (FLATCABEL 10P)               1.861.744.00
                          3   3   6  23                          DATA MP KEYBOARD    (FLATCABLE 26P)               1.861.746.00
                          3   3   6  25                          DATA MP KEYBOARD    (FLATCABLE 26P)               1.861.746.00
                          3   8   1  23                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)               1.861.745.00
                          3   8   1  25                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)               1.861.745.00
                          3   9   1   2                          DATA DP PROC  (FLATCAB. SOLD. 26P.)               1.861.741.00
                          3   9   1   4                          DATA DP PROC  (FLATCAB. SOLD. 26P.)               1.861.741.00
                          3   9   1   6                          DATA DP PROC  (FLATCAB. SOLD. 26P.)               1.861.741.00
                          3   9   1   8                          DATA DP PROC  (FLATCAB. SOLD. 26P.)               1.861.741.00
                          3   9   1  10                          DATA DP PROC  (FLATCAB. SOLD. 26P.)               1.861.741.00
                          3   9   1  12                          DATA DP PROC  (FLATCAB. SOLD. 26P.)               1.861.741.00
                          3  10   2   2                          POWER CCP TRANSC. (FLTCAB.SOLD.10P)               1.861.744.00
                          3  10   2   4                          POWER CCP TRANSC. (FLTCAB.SOLD.10P)               1.861.744.00
                          3  10   2   6                          POWER CCP TRANSC. (FLTCAB.SOLD.10P)               1.861.744.00
                          3  10   2   8                          POWER CCP TRANSC. (FLTCAB.SOLD.10P)               1.861.744.00
                          3  10   2  10                          POWER CCP TRANSC. (FLTCAB.SOLD.10P)               1.861.744.00
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+5.6                      1  70   1   1                          SIGNAL QUALITY   (26-PIN FLATCABLE)               1.861.731.00
                          1  70   1   2                          SIGNAL QUALITY   (26-PIN FLATCABLE)               1.861.731.00
                          1  70   1   3                          SIGNAL QUALITY   (26-PIN FLATCABLE)               1.861.731.00
                          1  70   1   4                          SIGNAL QUALITY   (26-PIN FLATCABLE)               1.861.731.00
                          1  70   1   5                          SIGNAL QUALITY   (26-PIN FLATCABLE)               1.861.731.00
                          1  70   1   6                          SIGNAL QUALITY   (26-PIN FLATCABLE)               1.861.731.00
             3            1  79   1   1                          POWER CONNECTOR  (24 PIN MOLEX FEM)
             3            1  79   1   2                          POWER CONNECTOR  (24 PIN MOLEX FEM)
             3            1  79   2   1                          POWER CONNECTOR (24 PIN MOLEX MALE)
             3            1  79   2   2                          POWER CONNECTOR (24 PIN MOLEX MALE)
                          1  79   4   1                          POWER CONNECTOR RACK (25 PIN D-SUB)
                          1  79   4   2                          POWER CONNECTOR RACK (25 PIN D-SUB)
                          1  79   4   3                          POWER CONNECTOR RACK (25 PIN D-SUB)
                          1  79   4  14                          POWER CONNECTOR RACK (25 PIN D-SUB)
                          1  79   4  15                          POWER CONNECTOR RACK (25 PIN D-SUB)
                          1  80   1  32A                         CUE/PQ DELAY                                      1.861.816.00
                          1  80   1  32B                         CUE/PQ DELAY                                      1.861.816.00
                          1  80   1  32C                         CUE/PQ DELAY                                      1.861.816.00
                          1  80   2  32A                         PDM MODULATOR                                     1.861.811.00
                          1  80   2  32B                         PDM MODULATOR                                     1.861.811.00
                          1  80   2  32C                         PDM MODULATOR                                     1.861.811.00
                          1  80   3  32A                         PDM DEMODULATOR 1                                 1.861.812.00
                          1  80   3  32B                         PDM DEMODULATOR 1                                 1.861.812.00
                          1  80   3  32C                         PDM DEMODULATOR 1                                 1.861.812.00
                          1  80   4  32A                         PDM DEMODULATOR 2                                 1.861.812.00
                          1  80   4  32B                         PDM DEMODULATOR 2                                 1.861.812.00
                          1  80   4  32C                         PDM DEMODULATOR 2                                 1.861.812.00
                          1  80   5  32A                         SPARE 1                                           1.861.815.00
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************************************************************************************************************************************
*     WILLI STUDER AG    *     S  I  G  N  A  L     W  I  R  E     L  I  S  T          *  86/12/08  *  10:54  *   P A G E 110    *
************************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                       *  86/08/27 - 00                             *
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SIGNAL NAME   COLOR  MI  ASY GRP ELM  PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                     REMARK       ELEMENT NR.
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<<-- CONT.OF               1  8C   5  32B                         SPARE 1                                                  1.861.815.00
+5.6                       1  8C   5  32C                         SPARE 1                                                  1.861.815.00
                           1  8C   6  32A                         ANALOG ROUTING                                           1.861.814.00
                           1  8C   6  32B                         ANALOG ROUTING                                           1.861.814.00
                           1  8C   6  32C                         ANALOG ROUTING                                           1.861.814.00
                           1  8C   7  32A                         PDM CONTROL                                              1.861.813.00
                           1  8C   7  32B                         PDM CONTROL                                              1.861.813.00
                           1  8C   7  32C                         PDM CONTROL                                              1.861.813.00
                           1  8C   8  32A                         DISPLAY INTERFACE                                        1.861.817.00
                           1  8C   8  32B                         DISPLAY INTERFACE                                        1.861.817.00
                           1  8C   8  32C                         DISPLAY INTERFACE                                        1.861.817.00
                           1  8C   9  32A                         SPARE 2
                           1  8C   9  32B                         SPARE 2
                           1  8C   9  32C                         SPARE 2
                           1  8C  13    1                         RACK PWR CONNECTOR    (25 PIN D-SUB)
                           1  8C  13    2                         RACK PWR CONNECTOR    (25 PIN D-SUB)
                           1  8C  13    3                         RACK PWR CONNECTOR    (25 PIN D-SUB)
                           1  8C  13   14                         RACK PWR CONNECTOR    (25 PIN D-SUB)
                           1  8C  13   15                         RACK PWR CONNECTOR    (25 PIN D-SUB)
                           1  8C  17    1                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
                           1  8C  17    2                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
                           1  8C  17    3                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
                           1  8C  17   14                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
                           1  8C  17   15                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
                           1  8C  17   16                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
              2            1  8C  19    7                         RACK-MONITOR PANEL     (D-SUB CRIMP)
              2            1  8C  19    8                         RACK-MONITOR PANEL     (D-SUB CRIMP)
              2            1  8C  19   19                         RACK-MONITOR PANEL     (D-SUB CRIMP)
              2            1  8C  19   20                         RACK-MONITOR PANEL     (D-SUB CRIMP)
              2            1  8C  19   21                         RACK-MONITOR PANEL     (D-SUB CRIMP)
                           3   3   1    7                         CBUS REARPANEL RACK    (D-SUB 25P M)                     1.861.744.00
                           3   3   1    8                         CBUS REARPANEL RACK    (D-SUB 25P M)                     1.861.744.00
                           3   3   1   19                         CBUS REARPANEL RACK    (D-SUB 25P M)                     1.861.744.00
                           3   3   1   20                         CBUS REARPANEL RACK    (D-SUB 25P M)                     1.861.744.00
                           3   3   1   21                         CBUS REARPANEL RACK    (D-SUB 25P M)                     1.861.744.00
                          11  20  51  18A                         MASTER SYSCON INTERFACE             J12                  1.861.721.00
                          11  20  51  18B                         MASTER SYSCON INTERFACE             J12                  1.861.721.00
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+5.6SENS      3            1  79   1    3                         POWER CONNECTOR  (24 PIN MOLEX FEM)
              3            1  79   2    3                         POWER CONNECTOR (24 PIN MOLEX MALE)
              4           11  19   1    3          F              FROM GRP32, ELM02                   J01
              4           11  19   2    3          M              TO GRP21, ELM02                     P01
              4           11  20  62    3          U              WIRE FIELD
              4           11  20  70    3          F              FROM GRP21, ELM01                   J13
                          11  32   2    3          M              OUTPUT                              P01
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+5.6V                      1  79   3    1                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3    2                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3    3                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3    4                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3   14                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3   15                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   3   16                         CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           2   1   2    1                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
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*     WILLI STUDER AG    *     S  I  G  N  A  L     W  I  R  E     L  I  S  T          *  86/12/08  *  10:54  *   P A G E 111    *
************************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                       *  86/08/27 - 00                             *
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SIGNAL NAME   COLOR  MI  ASY GRP ELM  PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                     REMARK       ELEMENT NR.
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<<-- CONT.OF               2   1   2    2                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
+5.6V                      2   1   2    3                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   2    4                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   2   14                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   2   15                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   2   16                         POWER DELTA MOLEX (P2)  (D-SUB 25P)                      1.861.895.00
                           2   1   4  32A                         DETECTOR                                                 1.861.804.00
                           2   1   4  32B                         DETECTOR                                                 1.861.804.00
                           2   1   4  32C                         DETECTOR                                                 1.861.804.00
                           2   1   5  32A                         WRITE AMPLIFIER                                          1.861.803.00
                           2   1   5  32B                         WRITE AMPLIFIER                                          1.861.803.00
                           2   1   5  32C                         WRITE AMPLIFIER                                          1.861.803.00
                           2   1   6  32A                         TAPE DECK MONITOR                                        1.861.802.00
                           2   1   6  32B                         TAPE DECK MONITOR                                        1.861.802.00
                           2   1   6  32C                         TAPE DECK MONITOR                                        1.861.802.00
                           2   1   7  32A                         PLAYBACK AMPLIFIER                                       1.861.801.00
                           2   1   7  32B                         PLAYBACK AMPLIFIER                                       1.861.801.00
                           2   1   7  32C                         PLAYBACK AMPLIFIER                                       1.861.801.00
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+5V-                       4   1   1   5A                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1   5B                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1   5C                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1   6A                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1   6B                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1   6C                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1  27A                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1  27B                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1  27C                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1  28A                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1  28B                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   1  28C                         ANALOG OUTPUT                                            1.861.751.00
                           4   1   2   5A                         ANALOG INPUT                                             1.861.752.00
                           4   1   2   5B                         ANALOG INPUT                                             1.861.752.00
                           4   1   2   5C                         ANALOG INPUT                                             1.861.752.00
                           4   1   2   6A                         ANALOG INPUT                                             1.861.752.00
                           4   1   2   6B                         ANALOG INPUT                                             1.861.752.00
                           4   1   2   6C                         ANALOG INPUT                                             1.861.752.00
                           4   1   2  27A                         ANALOG INPUT                                             1.861.752.00
                           4   1   2  27B                         ANALOG INPUT                                             1.861.752.00
                           4   1   2  27C                         ANALOG INPUT                                             1.861.752.00
                           4   1   2  28A                         ANALOG INPUT                                             1.861.752.00
                           4   1   2  28B                         ANALOG INPUT                                             1.861.752.00
                           4   1   2  28C                         ANALOG INPUT                                             1.861.752.00
                           4   1   3   5A                         SPARE 1
                           4   1   3   5B                         SPARE 1
                           4   1   3   5C                         SPARE 1
                           4   1   3   6A                         SPARE 1
                           4   1   3   6B                         SPARE 1
                           4   1   3   6C                         SPARE 1
                           4   1   3  27A                         SPARE 1
                           4   1   3  27B                         SPARE 1
                           4   1   3  27C                         SPARE 1
                           4   1   3  28A                         SPARE 1
                           4   1   3  28B                         SPARE 1
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*   WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T          *  86/12/08  *  10:54  *   P A G E 112   *
*************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                       *  86/08/27 - 00                       *
*************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
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<<-- CONT.OF              4   1   3  28C                         SPARE 1
+5V-                      4   1   4   5A                         GAINS CONTROL                                         1.861.853.00
                          4   1   4   5B                         GAINS CONTROL                                         1.861.853.00
                          4   1   4   5C                         GAINS CONTROL                                         1.861.853.00
                          4   1   4   6A                         GAINS CONTROL                                         1.861.853.00
                          4   1   4   6B                         GAINS CONTROL                                         1.861.853.00
                          4   1   4   6C                         GAINS CONTROL                                         1.861.853.00
                          4   1   4  27A                         GAINS CONTROL                                         1.861.853.00
                          4   1   4  27B                         GAINS CONTROL                                         1.861.853.00
                          4   1   4  27C                         GAINS CONTROL                                         1.861.853.00
                          4   1   4  28A                         GAINS CONTROL                                         1.861.853.00
                          4   1   4  28B                         GAINS CONTROL                                         1.861.853.00
                          4   1   4  28C                         GAINS CONTROL                                         1.861.853.00
                          4   1   5   5A                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5   5B                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5   5C                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5   6A                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5   6B                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5   6C                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5  27A                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5  27B                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5  27C                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5  28A                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5  28B                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   5  28C                         DAPRO INTERFACE                                       1.861.854.00
                          4   1   6   5A                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6   5B                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6   5C                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6   6A                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6   6B                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6   6C                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6  27A                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6  27B                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6  27C                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6  28A                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6  28B                         DATA PROCESSOR                                        1.861.855.00
                          4   1   6  28C                         DATA PROCESSOR                                        1.861.855.00
                          4   1   7   5A                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7   5B                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7   5C                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7   6A                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7   6B                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7   6C                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7  27A                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7  27B                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7  27C                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7  28A                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7  28B                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   7  28C                         COEFFICIENT GENERATOR                                 1.861.856.00
                          4   1   8   5A                         CODEC CONTROL                                         1.861.857.00
                          4   1   8   5B                         CODEC CONTROL                                         1.861.857.00
                          4   1   8   5C                         CODEC CONTROL                                         1.861.857.00
                          4   1   8   6A                         CODEC CONTROL                                         1.861.857.00
                          4   1   8   6B                         CODEC CONTROL                                         1.861.857.00
                                                                                                                                ./.
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*************************************************************************************************************************
*   WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T          *  86/12/08  *  10:54  *   P A G E 113   *
*************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                       *  86/08/27 - 00                       *
*************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
------------  -----  --  ------------------  -  --  --------------  --------------------------------------  ---------  --------------
<<-- CONT.OF              4   1   8   6C                         CODEC CONTROL                                         1.861.857.00
+5V-                      4   1   8  27A                         CODEC CONTROL                                         1.861.857.00
                          4   1   8  27B                         CODEC CONTROL                                         1.861.857.00
                          4   1   8  27C                         CODEC CONTROL                                         1.861.857.00
                          4   1   8  28A                         CODEC CONTROL                                         1.861.857.00
                          4   1   8  28B                         CODEC CONTROL                                         1.861.857.00
                          4   1   8  28C                         CODEC CONTROL                                         1.861.857.00
                          4   1   9   5A                         CODEC MEMORY                                          1.861.858.00
                          4   1   9   5B                         CODEC MEMORY                                          1.861.858.00
                          4   1   9   5C                         CODEC MEMORY                                          1.861.858.00
                          4   1   9   6A                         CODEC MEMORY                                          1.861.858.00
                          4   1   9   6B                         CODEC MEMORY                                          1.861.858.00
                          4   1   9   6C                         CODEC MEMORY                                          1.861.858.00
                          4   1   9  27A                         CODEC MEMORY                                          1.861.858.00
                          4   1   9  27B                         CODEC MEMORY                                          1.861.858.00
                          4   1   9  27C                         CODEC MEMORY                                          1.861.858.00
                          4   1   9  28A                         CODEC MEMORY                                          1.861.858.00
                          4   1   9  28B                         CODEC MEMORY                                          1.861.858.00
                          4   1   9  28C                         CODEC MEMORY                                          1.861.858.00
                          4   1  10   5A                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10   5B                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10   5C                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10   6A                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10   6B                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10   6C                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10  27A                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10  27B                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10  27C                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10  28A                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10  28B                         TRANSFORMATTER                                        1.861.859.00
                          4   1  10  28C                         TRANSFORMATTER                                        1.861.859.00
                          4   1  11   5A                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11   5B                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11   5C                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11   6A                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11   6B                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11   6C                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11  27A                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11  27B                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11  27C                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11  28A                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11  28B                         RUN PROCESSOR                                         1.861.860.00
                          4   1  11  28C                         RUN PROCESSOR                                         1.861.860.00
                          4   1  12   5A                         RT/TC CODEC                                           1.861.861.00
                          4   1  12   5B                         RT/TC CODEC                                           1.861.861.00
                          4   1  12   5C                         RT/TC CODEC                                           1.861.861.00
                          4   1  12   6A                         RT/TC CODEC                                           1.861.861.00
                          4   1  12   6B                         RT/TC CODEC                                           1.861.861.00
                          4   1  12   6C                         RT/TC CODEC                                           1.861.861.00
                          4   1  12  27A                         RT/TC CODEC                                           1.861.861.00
                          4   1  12  27B                         RT/TC CODEC                                           1.861.861.00
                          4   1  12  27C                         RT/TC CODEC                                           1.861.861.00
                          4   1  12  28A                         RT/TC CODEC                                           1.861.861.00
                          4   1  12  28B                         RT/TC CODEC                                           1.861.861.00
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***********************************************************************************************************************************
*   WILLI STUDER AG   *   S  I  G  N  A  L    W  I  R  E    L  I  S  T                      *  86/12/08  *  10:54  *  P A G E 114  *
***********************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                                *  86/08/27 - 00                      *
***********************************************************************************************************************************

SIGNAL NAME    COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
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<<— CONT.OF                 4   1  12 28C                         RT/TC CODEC                                          1.861.861.00
+5V-                        4   1  13  5A                         TIMING + TEST                                        1.861.862.00
                            4   1  13  5B                         TIMING + TEST                                        1.861.862.00
                            4   1  13  5C                         TIMING + TEST                                        1.861.862.00
                            4   1  13  6A                         TIMING + TEST                                        1.861.862.00
                            4   1  13  6B                         TIMING + TEST                                        1.861.862.00
                            4   1  13  6C                         TIMING + TEST                                        1.861.862.00
                            4   1  13 27A                         TIMING + TEST                                        1.861.862.00
                            4   1  13 27B                         TIMING + TEST                                        1.861.862.00
                            4   1  13 27C                         TIMING + TEST                                        1.861.862.00
                            4   1  13 28A                         TIMING + TEST                                        1.861.862.00
                            4   1  13 28B                         TIMING + TEST                                        1.861.862.00
                            4   1  13 28C                         TIMING + TEST                                        1.861.862.00
                            4   1  14  5A                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14  5B                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14  5C                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14  6A                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14  6B                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14  6C                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14 27A                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14 27B                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14 27C                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14 28A                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14 28B                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  14 28C                         SYSTEM CONTROLLER 1                                  1.861.763.00
                            4   1  15  5A                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15  5B                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15  5C                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15  6A                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15  6B                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15  6C                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15 27A                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15 27B                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15 27C                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15 28A                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15 28B                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  15 28C                         SYSTEM CONTROLLER 2                                  1.861.763.00
                            4   1  23  6A                         POWER SUPPLY                                         1.861.515.00
                            4   1  23  6B                         POWER SUPPLY                                         1.861.515.00
                            4   1  23  6C                         POWER SUPPLY                                         1.861.515.00
                            4   1  23  8A                         POWER SUPPLY                                         1.861.515.00
                            4   1  23  8B                         POWER SUPPLY                                         1.861.515.00
                            4   1  23  8C                         POWER SUPPLY                                         1.861.515.00
                            4   1  23 26A                         POWER SUPPLY                                         1.861.515.00
                            4   1  23 26B                         POWER SUPPLY                                         1.861.515.00
                            4   1  23 26C                         POWER SUPPLY                                         1.861.515.00
                            4   1  23 28A                         POWER SUPPLY                                         1.861.515.00
                            4   1  23 28B                         POWER SUPPLY                                         1.861.515.00
                            4   1  23 28C                         POWER SUPPLY                                         1.861.515.00
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-PSVTMOT       6           11  18   1   9         F               FROM GRP31. ELM01                    J01
               6           11  18   1  10         F               FROM GRP31. ELM01                    J01
               6           11  18   1  11         F               FROM GRP31. ELM01                    J01
               6           11  18   1  12         F               FROM GRP31. ELM01                    J01
                                                                                                                                  ./.
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***********************************************************************************************************************************
*   WILLI STUDER AG   *   S  I  G  N  A  L    W  I  R  E    L  I  S  T                      *  86/12/08  *  10:54  *  P A G E 115  *
***********************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                                *  86/08/27 - 00                      *
***********************************************************************************************************************************

SIGNAL NAME    COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
-------------  -----  --  ---------------  -  --  --------------  ---------------------------------------- ---------  -------------
<<— CONT.OF    6           11  18   1  13         F               FROM GRP31. ELM01                    J01
-PSVTMOT       6           11  18   1  14         F               FROM GRP31. ELM01                    J01
               6           11  18   1  15         F               FROM GRP31. ELM01                    J01
               6           11  18   1  16         F               FROM GRP31. ELM01                    J01
               6           11  18   2   2         F               TO GRP33. ELM01                      P01
               6           11  18   2   5         F               TO GRP33. ELM01                      P01
               6           11  18   2   8         F               TO GRP33. ELM01                      P01
               6           11  18   2  11         F               TO GRP33. ELM01                      P01
               6           11  18   3   2         F               TO GRP30. ELM01                      P02
               6           11  18   3   5         F               TO GRP30. ELM01                      P02
               6           11  18   3   8         F               TO GRP30. ELM01                      P02
               6           11  18   3  11         F               TO GRP30. ELM01                      P02
                           11  30   1   2         M               FROM GRP31. ELM01                    J01
                           11  30   1   5         M               FROM GRP31. ELM01                    J01
                           11  30   1   8         M               FROM GRP31. ELM01                    J01
                           11  30   1  11         M               FROM GRP31. ELM01                    J01
                           11  31   1   9         M               OUTPUT                               P01
                           11  31   1  10         M               OUTPUT                               P01
                           11  31   1  11         M               OUTPUT                               P01
                           11  31   1  12         M               OUTPUT                               P01
                           11  31   1  13         M               OUTPUT                               P01
                           11  31   1  14         M               OUTPUT                               P01
                           11  31   1  15         M               OUTPUT                               P01
                           11  31   1  16         M               OUTPUT                               P01
                           11  31   4   4         F               CONNECTOR TO CAPACITOR (GRP34)       P03
                           11  31   4   5         F               CONNECTOR TO CAPACITOR (GRP34)       P03
                           11  31   4   6         F               CONNECTOR TO CAPACITOR (GRP34)       P03
                           11  33   1   2         M               FROM GRP31. ELM01                    J01
                           11  33   1   5         M               FROM GRP31. ELM01                    J01
                           11  33   1   8         M               FROM GRP31. ELM01                    J01
                           11  33   1  11         M               FROM GRP31. ELM01                    J01
               6           11  34   1  2A         L               CAPACITOR
               6           11  34   1  2B         L               CAPACITOR
               6           11  34   1  2C         L               CAPACITOR
               6           11  34   2   4         M               CONNECTOR (FROM GRP31)               J01
               6           11  34   2   5         M               CONNECTOR (FROM GRP31)               J01
               6           11  34   2   6         M               CONNECTOR (FROM GRP31)               J01
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-STABIN        5            1  79   1  18                         POWER CONNECTOR  (24 PIN MOLEX FEM)
               5            1  79   2  18                         POWER CONNECTOR (24 PIN MOLEX MALE)
               6           11  11   2   4         L               RECTIFIER                           DZ02                 70.01.0231
               6           11  12   3   2         L               CAPACITOR                            C03                 59.26.7103
               6           11  12   5   6         M               CONNECTOR TO GRP32. ELM01            P01
                           11  32   1   6         F               INPUT FROM GRP12. ELM05              J01
-------------  -----  --  ---------------  -  --  --------------  ---------------------------------------- ---------  -------------
-STABSNS       5           11  19   1  18         F               FROM GRP32. ELM02                    J01
               5           11  19   2  18         M               TO GRP21. ELM02                      P01
                           11  20  14   5                         FUSE FAILURE DETECTOR                P14
               5           11  20  62   5         L               WIRE FIELD
               5           11  20  70  18         F               FROM GRP21. ELM01                    J13
                           11  32   2  18         M               OUTPUT                               P01
                           11  59   1   5                         FROM GRP20. ELM14                    P01
-------------  -----  --  ---------------  -  --  --------------  ---------------------------------------- ---------  -------------
-VMOTLFT                   11  33   3   2         J                                                    P02
               :           11  36   2   2                         FROM GRP33. ELM 03
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*********************************************************************************************************************************
*   WILLI STUDER AG  *    S I G N A L     W I R E     L I S T                      * 86/12/08  *  10:54  *    P A G E 116    *
*********************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                     *  86/08/27 - 00                              *
*********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                 REMARK      ELEMENT NR.
-----------   -----  --  ---------------  -  --  --------------  -----------------------------------   --------   --------------
-VMOTRHT                  11  30   3   2          J                                                PO2
              3           11  37   2   2                          FROM GRP30. ELM 03
------------  -----  --  ---------------  -  --  --------------  -----------------------------------   --------   --------------
-YSUP                     11  20   5  10                          SPOOLING MOTOR SUPPLY             PO5
                          11  20  43  11A                         TAPE DECK PERIPHERY CONTR.        J04                  1.820.762.00
                          11  31   3  10                          FROM GRP20. ELM05                 PO2
------------  -----  --  ---------------  -  --  --------------  -----------------------------------   --------   --------------
-10                        2   1   4  14A                         DETECTOR                                               1.861.804.00
                           2   1   4  14B                         DETECTOR                                               1.861.804.00
                           2   1   4  14C                         DETECTOR                                               1.861.804.00
                           2   1   5  14A                         WRITE AMPLIFIER                                        1.861.803.00
                           2   1   5  14B                         WRITE AMPLIFIER                                        1.861.803.00
                           2   1   5  14C                         WRITE AMPLIFIER                                        1.861.803.00
                           2   1   6  14A                         TAPE DECK MONITOR                                      1.861.802.00
                           2   1   6  14B                         TAPE DECK MONITOR                                      1.861.802.00
                           2   1   6  14C                         TAPE DECK MONITOR                                      1.861.802.00
                           2   1   7  14A                         PLAYBACK AMPLIFIER                                     1.861.801.00
                           2   1   7  14B                         PLAYBACK AMPLIFIER                                     1.861.801.00
                           2   1   7  14C                         PLAYBACK AMPLIFIER                                     1.861.801.00
                           2   3   1  22                          HEADBLOCK READ (P4)     (D-SUB 25P)                    1.861.801.00
                           2   3   1  23                          HEADBLOCK READ (P4)     (D-SUB 25P)                    1.861.801.00
                           2   3   1  24                          HEADBLOCK READ (P4)     (D-SUB 25P)                    1.861.801.00
                           2   3   1  25                          HEADBLOCK READ (P4)     (D-SUB 25P)                    1.861.801.00
                           5   3   1  22                          HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                    1.861.805.00
                           5   3   1  23                          HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                    1.861.805.00
                           5   3   1  24                          HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                    1.861.805.00
                           5   3   1  25                          HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                    1.861.805.00
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-15.0         6            1  79   1  12                          POWER CONNECTOR  (24 PIN MOLEX FEM)
              6            1  79   2  12                          POWER CONNECTOR (24 PIN MOLEX MALE)
                           1  79   3  10                          CAGE PWR CONNECTOR   (25 PIN D-SUB)
                           1  79   3  11                          CAGE PWR CONNECTOR   (25 PIN D-SUB)
                           1  79   3  22                          CAGE PWR CONNECTOR   (25 PIN D-SUB)
                           1  79   3  23                          CAGE PWR CONNECTOR   (25 PIN D-SUB)
                           1  79   3  24                          CAGE PWR CONNECTOR   (25 PIN D-SUB)
                           1  79   4  10                          POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  79   4  11                          POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  79   4  22                          POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  79   4  23                          POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  80   1  14A                         CUE/PQ DELAY                                           1.861.816.00
                           1  80   1  14B                         CUE/PQ DELAY                                           1.861.816.00
                           1  80   1  14C                         CUE/PQ DELAY                                           1.861.816.00
                           1  80   2  14A                         PDM MODULATOR                                          1.861.811.00
                           1  80   2  14B                         PDM MODULATOR                                          1.861.811.00
                           1  80   2  14C                         PDM MODULATOR                                          1.861.811.00
                           1  80   3  14A                         PDM DEMODULATOR 1                                      1.861.812.00
                           1  80   3  14B                         PDM DEMODULATOR 1                                      1.861.812.00
                           1  80   3  14C                         PDM DEMODULATOR 1                                      1.861.812.00
                           1  80   4  14A                         PDM DEMODULATOR 2                                      1.861.812.00
                           1  80   4  14B                         PDM DEMODULATOR 2                                      1.861.812.00
                           1  80   4  14C                         PDM DEMODULATOR 2                                      1.861.812.00
                           1  80   5  14A                         SPARE 1                                                1.861.815.00
                           1  80   5  14B                         SPARE 1                                                1.861.815.00
                           1  80   5  14C                         SPARE 1                                                1.861.815.00
                           1  80   6  14A                         ANALOG ROUTING                                         1.861.814.00
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*********************************************************************************************************************************
*   WILLI STUDER AG  *    S I G N A L     W I R E     L I S T                      * 86/12/08  *  10:54  *    P A G E 117    *
*********************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                     *  86/08/27 - 00                              *
*********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                 REMARK      ELEMENT NR.
-----------   -----  --  ---------------  -  --  --------------  -----------------------------------   --------   --------------
<<-- CONT.OF               1  80   6  14B                         ANALOG ROUTING                                         1.861.814.00
-15.0                      1  80   6  14C                         ANALOG ROUTING                                         1.861.814.00
                           1  80   7  14A                         PDM CONTROL                                            1.861.813.00
                           1  80   7  14B                         PDM CONTROL                                            1.861.813.00
                           1  80   7  14C                         PDM CONTROL                                            1.861.813.00
                           1  80   8  14A                         DISPLAY INTERFACE                                      1.861.817.00
                           1  80   8  14B                         DISPLAY INTERFACE                                      1.861.817.00
                           1  80   8  14C                         DISPLAY INTERFACE                                      1.861.817.00
                           1  80   9  14A                         SPARE 2
                           1  80   9  14B                         SPARE 2
                           1  80   9  14C                         SPARE 2
                           1  80  13  10                          RACK PWR CONNECTOR   (25 PIN D-SUB)
                           1  80  13  11                          RACK PWR CONNECTOR   (25 PIN D-SUB)
                           1  80  13  22                          RACK PWR CONNECTOR   (25 PIN D-SUB)
                           1  80  13  23                          RACK PWR CONNECTOR   (25 PIN D-SUB)
              1            1  80  19  22                          RACK-MONITOR PANEL    (D-SUB CRIMP)
              1            1  80  19  23                          RACK-MONITOR PANEL    (D-SUB CRIMP)
              1            1  80  19  24                          RACK-MONITOR PANEL    (D-SUB CRIMP)
                           2   1   2  10                          POWER DELTA MOLEX (P2)  (D-SUB 25P)                    1.861.895.00
                           2   1   2  11                          POWER DELTA MOLEX (P2)  (D-SUB 25P)                    1.861.895.00
                           2   1   2  22                          POWER DELTA MOLEX (P2)  (D-SUB 25P)                    1.861.895.00
                           2   1   2  23                          POWER DELTA MOLEX (P2)  (D-SUB 25P)                    1.861.895.00
                           2   1   2  24                          POWER DELTA MOLEX (P2)  (D-SUB 25P)                    1.861.895.00
                           2   1   6  13A                         TAPE DECK MONITOR                                      1.861.802.00
                           2   1   6  13B                         TAPE DECK MONITOR                                      1.861.802.00
                           2   1   6  13C                         TAPE DECK MONITOR                                      1.861.802.00
                           2   1   7  13A                         PLAYBACK AMPLIFIER                                     1.861.801.00
                           2   1   7  13B                         PLAYBACK AMPLIFIER                                     1.861.801.00
                           2   1   7  13C                         PLAYBACK AMPLIFIER                                     1.861.801.00
                           3   3   1  22                          CBUS REARPANEL RACK   (D-SUB 25P M)                    1.861.744.00
                           3   3   1  23                          CBUS REARPANEL RACK   (D-SUB 25P M)                    1.861.744.00
                           3   3   1  24                          CBUS REARPANEL RACK   (D-SUB 25P M)                    1.861.744.00
              6           11  19   1  12          F               FROM GRP32. ELM02                 J01
              6           11  19   2  12          M               TO GRP21. ELM02                   P01
                          11  20   1   6                          SPOOLING MOTOR DRIVE AMP. LEFT    P01
                          11  20   2   6                          SPOOLING MOTOR DRIVE AMP. RIGHT   P02
                          11  20   3   6                          CAPSTAN MOTOR DRIVE AMPLIFIER     P03
                          11  20   4   6                          PAR. CONT. INT. SYNCHRONIZER      P04
                          11  20   5   6                          SPOOLING MOTOR SUPPLY             P05
                          11  20   6   6                          EXT. SENSORS                      P06
                          11  20   9   6                          TACHO SENSOR (SPOOLING M. LEFT)   P09
                          11  20  10   6                          TACHO SENSOR (SPOOLING M. RIGHT)  P10
                          11  20  11   6                          MOVE SENSOR                       P11
                          11  20  12   6                          TAPE TENSION SENSOR. LEFT         P12
                          11  20  13   6                          TAPE TENSION SENSOR. RIGHT        P13
                          11  20  14  13                          FUSE FAILURE DETECTOR             P14
                          11  20  17   6                          TO HEAD BLOCK ASSEMBLY            P17
                          11  20  18   6                          VU-METER PANEL. EXTERNAL          P18
                          11  20  19   6                          SOURCE SELECTOR                   P19
                          11  20  40  22                          SPOOLING MOTOR DRIVER             J01                  1.820.759.00
                          11  20  41  22                          CAPSTAN CONTROL UNIT              J02                  1.820.764.00
                          11  20  42  18A                         CAPSTAN INTERFACE                 J03                  1.820.727.00
                          11  20  42  18B                         CAPSTAN INTERFACE                 J03                  1.820.727.00
                          11  20  43  18A                         TAPE DECK PERIPHERY CONTR.        J04                  1.820.762.00
                                                                                                                                  ./.
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**************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                          * 86/12/08 * 10:54 * P A G E 118  *
**************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                          * 86/08/27 - 00                    *
**************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S LV  TYPE            DESCRIPTION OF ELEMENT                  REMARK   ELEMENT NR.
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<<-- CONT.OF             11  20  43  18B                       TAPE DECK PERIPHERY CONTR.    J04                1.820.762.00
-15.0                    11  20  44  22                        TAPE DECK COUNTER / TIMER     J05                1.820.761.00
                         11  20  45  22                        SPOOLING MOTOR CONTROLLER     J06                1.820.760.00
                         11  20  47  22                        TAPE DECK SERIAL INTERFACE    J08                1.820.763.00
                         11  20  48  18A                       MASTER SERIAL INTERFACE       J09                1.820.753.00
                         11  20  48  18B                       MASTER SERIAL INTERFACE       J09                1.820.753.00
                         11  20  50  22                        SMPTE/EBU INTERFACE           J11                1.820.751.00
             6           11  20  61  9             L           WIRE FIELD (FROM GRP20, ELM70)
             6           11  20  70  12            F           FROM GRP21, ELM01             J13
                         11  30   2  6                         FROM GRP20, ELM02             P01
                         11  31   3  6                         FROM GRP20, ELM05             P02
                         11  32   2  12            M           OUTPUT                        P01
                         11  33   2  6                         FROM GRP20, ELM01             P01
                         11  36   1  6                         TACHO SENSOR                  P01                1.820.771.00
                         11  37   1  6                         TACHO SENSOR                  P01                1.820.771.00
                         11  39   1  6                         FROM GRP20, ELM03             P01
                         11  39   2  5             M           TO GRP38, ELM01               P02
                         11  42   1  6                         FROM GRP20, ELM12             P01
                         11  43   1  6                         FROM GRP20, ELM13             P01
                         11  44   1  6                         FROM GRP20, ELM06             P01
                         11  45   1  6                         FROM GRP20, ELM11             P01
                         11  59   1  13                        FROM GRP20, ELM14             P01
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-20                       4   1   1  11A                       ANALOG OUTPUT                                    1.861.751.00
                          4   1   1  11B                       ANALOG OUTPUT                                    1.861.751.00
                          4   1   1  11C                       ANALOG OUTPUT                                    1.861.751.00
                          4   1   2  11A                       ANALOG INPUT                                     1.861.752.00
                          4   1   2  11B                       ANALOG INPUT                                     1.861.752.00
                          4   1   2  11C                       ANALOG INPUT                                     1.861.752.00
                          4   1   4  22A                       GAINS CONTROL                                    1.861.853.00
                          4   1  12  14A                       RT/TC CODEC                                      1.861.861.00
                          4   1  12  14B                       RT/TC CODEC                                      1.861.861.00
                          4   1  12  14C                       RT/TC CODEC                                      1.861.861.00
                          4   1  13  11A                       TIMING + TEST                                    1.861.862.00
                          4   1  13  11B                       TIMING + TEST                                    1.861.862.00
                          4   1  13  11C                       TIMING + TEST                                    1.861.862.00
                          4   1  14  29A                       SYSTEM CONTROLLER 1                              1.861.763.00
                          4   1  15  29A                       SYSTEM CONTROLLER 2                              1.861.763.00
                          4   1  23  18A                       POWER SUPPLY                                     1.861.515.00
                          4   1  23  18B                       POWER SUPPLY                                     1.861.515.00
                          4   1  23  18C                       POWER SUPPLY                                     1.861.515.00
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-26.0        9            1  79   1  19                        POWER CONNECTOR  (24 PIN MOLEX FEM)
             9            1  79   2  19                        POWER CONNECTOR (24 PIN MOLEX MALE)
             9           11  19   1  19            F           FROM GRP32, ELM02             J01
             9           11  19   2  19            M           TO GRP21, ELM02               P01
                         11  20   7  6                         TAPE LIFT MOTOR, LEFT         P07
                         11  20   8  6                         TAPE LIFT MOTOR, RIGHT        P08
                         11  20  14  16                        FUSE FAILURE DETECTOR         P14
             9           11  20  61  1             L           WIRE FIELD (FROM GRP20, ELM70)
             9           11  20  70  19            F           FROM GRP21, ELM01             J13
                         11  32   2  19            M           OUTPUT                        P01
                         11  46   1  6                         FROM GRP20, ELM07             P01
                         11  47   1  6                         FROM GRP20, ELM08             P01
                         11  59   1  16                        FROM GRP20, ELM14             P01
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**************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                          * 86/12/08 * 10:54 * P A G E 119  *
**************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                          * 86/08/27 - 00                    *
**************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S LV  TYPE            DESCRIPTION OF ELEMENT                  REMARK   ELEMENT NR.
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ACPWE-A1     6           11   9   3  14            Y           SECONDARY 1                                      1.820.523.00
             6           11  10   1  1             L           FUSE                          F01                  53.03.0106
             6           11  11   4  1A            K           DISTRIBUTOR                                        52.01.0101
             6           11  11   4  1B            K           DISTRIBUTOR                                        52.01.0101
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ACPWE-A2     6           11   9   3  13            Y           SECONDARY 1                                      1.820.523.00
             6           11  11   4  1D            K           DISTRIBUTOR                                        52.01.0101
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ACPWE-A3     6           11   9   3  12            Y           SECONDARY 1                                      1.820.523.00
             6           11  11   4  1C            K           DISTRIBUTOR                                        52.01.0101
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ACPWE-A4     1           11   9   3  11            Y           SECONDARY 1                                      1.820.523.00
             1           11  10   2  1             L           FUSE                          F02                  53.03.0106
             1           11  11   4  5A            K           DISTRIBUTOR                                        52.01.0101
             1           11  11   4  5B            K           DISTRIBUTOR                                        52.01.0101
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ACPWE-A5     1           11   9   3  10            Y           SECONDARY 1                                      1.820.523.00
             1           11  11   4  5D            K           DISTRIBUTOR                                        52.01.0101
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ACPWE-A6     7           11   9   3  9             Y           SECONDARY 1                                      1.820.523.00
             7           11  10   3  1             L           FUSE                          F03                  53.03.0106
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ACPWE-B1     5           11   9   4  15            Y           SECONDARY 2                                      1.820.524.00
             5           11  11   1  2             L           RECTIFIER                     DZ01                 70.01.0231
             5           11  11   4  3A            K           DISTRIBUTOR                                        52.01.0101
             5           11  11   4  3C            K           DISTRIBUTOR                                        52.01.0101
             5           11  11   4  3D            K           DISTRIBUTOR                                        52.01.0101
             5           11  11   4  4B            K           DISTRIBUTOR                                        52.01.0101
             5           11  11   4  4C            K           DISTRIBUTOR                                        52.01.0101
             5           11  12   5  12            M           CONNECTOR TO GRP32, ELM01     P01
                         11  32   1  12            F           INPUT FROM GRP12, ELM05       J01
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ACPWE-B2     5           11   9   4  16            Y           SECONDARY 2                                      1.820.524.00
             5           11  11   4  3B            K           DISTRIBUTOR                                        52.01.0101
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ACPWE-B3     5           11   9   4  17            Y           SECONDARY 2                                      1.820.524.00
             5           11  11   4  4D            K           DISTRIBUTOR                                        52.01.0101
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ACPWE-B4     4           11   9   4  18            Y           SECONDARY 2                                      1.820.524.00
             4           11  11   2  2             L           RECTIFIER                     DZ02                 70.01.0231
             4           11  11   4  6C            K           DISTRIBUTOR                                        52.01.0101
             4           11  11   4  6D            K           DISTRIBUTOR                                        52.01.0101
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ACPWE-B5     4           11   9   4  19            Y           SECONDARY 2                                      1.820.524.00
             4           11  11   4  6A            K           DISTRIBUTOR                                        52.01.0101
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ACPWE-B6     0           11   9   4  20            Y           SECONDARY 2                                      1.820.524.00
             0           11  11   3  2             L           RECTIFIER                     DZ03                 70.01.0231
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ACPWE-C1     0           11   9   3  15            Y           SECONDARY 1                                      1.820.523.00
             0           11   9   4  14            Y           SECONDARY 2                                      1.820.524.00
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ACPWE-C2     0           11   9   3  16            Y           SECONDARY 1                                      1.820.523.00
             0           11   9   4  13            Y           SECONDARY 2                                      1.820.524.00
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***********************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                * 86/12/08  *  10:54  *  P A G E 120  *
***********************************************************************************************************
*          1.861.022.00  D820X PCM RECORDER                               * 86/08/27 - 00                   *
***********************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
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ACPWE-C3      0          11   9   3  17          Y               SECONDARY 1                                          1.820.523.00
              0          11   9   4  12          Y               SECONDARY 2                                          1.820.524.00
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ACPWE-C4      0          11   9   3  18          Y               SECONDARY 1                                          1.820.523.00
              0          11   9   4  11          Y               SECONDARY 2                                          1.820.524.00
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ACPWE-C5      0          11   9   3  19          Y               SECONDARY 1                                          1.820.523.00
              0          11   9   4  10          Y               SECONDARY 2                                          1.820.524.00
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ACPWE-C6      0          11   9   3  20          Y               SECONDARY 1                                          1.820.523.00
              0          11   9   4   9          Y               SECONDARY 2                                          1.820.524.00
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ACPWE-D1      9          11  10   1   2          L               FUSE                                F01                53.03.0106
              9          11  11   1   1          L               RECTIFIER                          DZ01                70.01.0231
              9          11  11   4  2A          K               DISTRIBUTOR                                            52.01.0101
              9          11  11   4  2B          K               DISTRIBUTOR                                            52.01.0101
              9          11  11   4  2C          K               DISTRIBUTOR                                            52.01.0101
              9          11  12   5  10          M               CONNECTOR TO GRP32, ELM01           P01
                         11  32   1  10          F               INPUT FROM GRP12, ELM05             J01
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ACPWE-D4      5          11  10   2   2          L               FUSE                                F02                53.03.0106
              5          11  11   2   1          L               RECTIFIER                          DZ02                70.01.0231
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ACPWE-D6      0          11  10   3   2          L               FUSE                                F03                53.03.0106
              0          11  11   3   1          L               RECTIFIER                          DZ03                70.01.0231
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ACPWM-A1      1          11   8   3  14          Y               SECONDARY 1                                          1.820.523.00
              1          11   8   5   1          M               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2   1          F               FROM GRP08, ELM05                   J01
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ACPWM-A2      2          11   8   3  13          Y               SECONDARY 1                                          1.820.523.00
              2          11   8   5   2          M               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2   4          F               FROM GRP08, ELM05                   J01
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ACPWM-A3      3          11   8   3  12          Y               SECONDARY 1                                          1.820.523.00
              3          11   8   5   3          M               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2   2          F               FROM GRP08, ELM05                   J01
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ACPWM-A4      4          11   8   3  11          Y               SECONDARY 1                                          1.820.523.00
              4          11   8   5   4          M               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2   5          F               FROM GRP08, ELM05                   J01
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ACPWM-A5      5          11   8   3  10          Y               SECONDARY 1                                          1.820.523.00
              5          11   8   5   5          M               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2   3          F               FROM GRP08, ELM05                   J01
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ACPWM-A6      6          11   8   3   9          Y               SECONDARY 1                                          1.820.523.00
              6          11   8   5   6          M               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2   6          F               FROM GRP08, ELM05                   J01
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ACPWM-B1      9          11   8   4  15          Y               SECONDARY 2                                          1.820.524.00
              9          11   8   5   7          F               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2   7          M               FROM GRP08, ELM05                   J01
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***********************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                * 86/12/08  *  10:54  *  P A G E 121  *
***********************************************************************************************************
*          1.861.022.00  D820X PCM RECORDER                               * 86/08/27 - 00                   *
***********************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
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ACPWM-B2      9          11   8   4  16          Y               SECONDARY 2                                          1.820.524.00
              9          11   8   5   8          F               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2   8          M               FROM GRP08, ELM05                   J01
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ACPWM-B3      9          11   8   4  17          Y               SECONDARY 2                                          1.820.524.00
              9          11   8   5   9          F               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2   9          M               FROM GRP08, ELM05                   J01
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ACPWM-B4      9          11   8   4  18          Y               SECONDARY 2                                          1.820.524.00
              9          11   8   5  10          F               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2  10          M               FROM GRP08, ELM05                   J01
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ACPWM-B5      9          11   8   4  19          Y               SECONDARY 2                                          1.820.524.00
              9          11   8   5  11          F               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2  11          M               FROM GRP08, ELM05                   J01
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ACPWM-B6      9          11   8   4  20          Y               SECONDARY 2                                          1.820.524.00
              9          11   8   5  12          F               CONNECTOR TO SPOOLING MOTOR SUPPLY
                         11  31   2  12          M               FROM GRP08, ELM05                   J01
-----------   -----  --  ---------------  -  --  --------------  --------------------------------------  --------   -------------
ACPWM-C1      0          11   8   3  15          Y               SECONDARY 1                                          1.820.523.00
              0          11   8   4  14          Y               SECONDARY 2                                          1.820.524.00
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ACPWM-C2      0          11   8   3  16          Y               SECONDARY 1                                          1.820.523.00
              0          11   8   4  13          Y               SECONDARY 2                                          1.820.524.00
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ACPWM-C3      0          11   8   3  17          Y               SECONDARY 1                                          1.820.523.00
              0          11   8   4  12          Y               SECONDARY 2                                          1.820.524.00
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ACPWM-C4      0          11   8   3  18          Y               SECONDARY 1                                          1.820.523.00
              0          11   8   4  11          Y               SECONDARY 2                                          1.820.524.00
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ACPWM-C5      0          11   8   3  19          Y               SECONDARY 1                                          1.820.523.00
              0          11   8   4  10          Y               SECONDARY 2                                          1.820.524.00
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ACPWM-C6      0          11   8   3  20          Y               SECONDARY 1                                          1.820.523.00
              0          11   8   4   9          Y               SECONDARY 2                                          1.820.524.00
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ADBCLKA                   4   1   2  7A                          ANALOG INPUT                                         1.861.752.00
                          4   1   5 15A                          DAPRO INTERFACE                                      1.861.854.00
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ADCCLIP1                  4   1   2 25A                          ANALOG INPUT                                         1.861.752.00
                          4   1   4 24C                          GAINS CONTROL                                        1.861.853.00
                          4   1   6 22A                          DATA PROCESSOR                                       1.861.855.00
                          4   1   6 24B                          DATA PROCESSOR                                       1.861.855.00
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ADCCLIP2                  4   1   2 25C                          ANALOG INPUT                                         1.861.752.00
                          4   1   4 25B                          GAINS CONTROL                                        1.861.853.00
                          4   1   6 22C                          DATA PROCESSOR                                       1.861.855.00
                          4   1   6 24C                          DATA PROCESSOR                                       1.861.855.00
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ADDAT1                    4   1   2 30A                          ANALOG INPUT                                         1.861.752.00
                          4   1   5 16B                          DAPRO INTERFACE                                      1.861.854.00
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ADDAT2                    4   1   2 29A                          ANALOG INPUT                                         1.861.752.00
                          4   1   5 17A                          DAPRO INTERFACE                                      1.861.854.00
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*********************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                                * 86/12/08 * 10:54 * P A G E 122   *
*********************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                             * 86/08/27 - 00                      *
*********************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
ADIBCLKA                  4   1   2  7C                           ANALOG INPUT                                       1.861.752.00
                          4   1   5 15B                           DAPRO INTERFACE                                    1.861.854.00
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ADIDAT1                   4   1   2 30B                           ANALOG INPUT                                       1.861.752.00
                          4   1   5 16C                           DAPRO INTERFACE                                    1.861.854.00
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ADIDAT2                   4   1   2 29B                           ANALOG INPUT                                       1.861.752.00
                          4   1   5 17B                           DAPRO INTERFACE                                    1.861.854.00
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ADISTART                  4   1   2  8C                           ANALOG INPUT                                       1.861.752.00
                          4   1   5 16A                           DAPRO INTERFACE                                    1.861.854.00
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ADIVALID                  4   1   2 31B                           ANALOG INPUT                                       1.861.752.00
                          4   1   5 14C                           DAPRO INTERFACE                                    1.861.854.00
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ADSTART                   4   1   2  8A                           ANALOG INPUT                                       1.861.752.00
                          4   1   5 15C                           DAPRO INTERFACE                                    1.861.854.00
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ADTC                      4   1  10 17A                           TRANSFORMATTER                                     1.861.859.00
                          4   1  11 17A                           RUN PROCESSOR                                      1.861.860.00
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ADT1                      4   1  10 17C                           TRANSFORMATTER                                     1.861.859.00
                          4   1  11 17C                           RUN PROCESSOR                                      1.861.860.00
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ADT2                      4   1  10 18A                           TRANSFORMATTER                                     1.861.859.00
                          4   1  11 18A                           RUN PROCESSOR                                      1.861.860.00
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ADT3                      4   1  10 18C                           TRANSFORMATTER                                     1.861.859.00
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ADVALID                   4   1   2 31A                           ANALOG INPUT                                       1.861.752.00
                          4   1   5 14B                           DAPRO INTERFACE                                    1.861.854.00
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AESGNDI                   4   1  19   3                           CONNECTOR 4               (TC+AES+BNC)
                          4   3   6   1                           DIGITAL INPUT (DI)               (XLR)
                          4   3  23   2                           DIGITAL I/O                      (CIS)             1.861.775.00
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AESGNDO                   4   1  19   1                           CONNECTOR 4               (TC+AES+BNC)
                          4   3   5   1                           DIGITAL OUTPUT (DO)              (XLR)
                          4   3  23   5                           DIGITAL I/O                      (CIS)             1.861.775.00
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AESIIN                    4   1   4 14C                           GAINS CONTROL                                      1.861.853.00
                          4   1   5 13C                           DAPRO INTERFACE                                    1.861.854.00
                          4   1   5 24C                           DAPRO INTERFACE                                    1.861.854.00
                          4   1  13 15B                           TIMING + TEST                                      1.861.862.00
                          4   1  19  17                           CONNECTOR 4               (TC+AES+BNC)
                          4   3   6   3                           DIGITAL INPUT (DI)               (XLR)
                          4   3  23   4                           DIGITAL I/O                      (CIS)             1.861.775.00
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AESIN                     4   1   4 16B                           GAINS CONTROL                                      1.861.853.00
                          4   1   5 17C                           DAPRO INTERFACE                                    1.861.854.00
                          4   1   5 24B                           DAPRO INTERFACE                                    1.861.854.00
                          4   1  13 15A                           TIMING + TEST                                      1.861.862.00
                          4   1  19  16                           CONNECTOR 4               (TC+AES+BNC)
                          4   3   6   2                           DIGITAL INPUT (DI)               (XLR)
                          4   3  23   3                           DIGITAL I/O                      (CIS)             1.861.775.00
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*********************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                                * 86/12/08 * 10:54 * P A G E 123   *
*********************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                             * 86/08/27 - 00                      *
*********************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AESIO1                    4   1   5 24A                           DAPRO INTERFACE                                    1.861.854.00
                          4   1  19  15                           CONNECTOR 4               (TC+AES+BNC)
                          4   3   5   3                           DIGITAL OUTPUT (DO)              (XLR)
                          4   3  23   7                           DIGITAL I/O                      (CIS)             1.861.775.00
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AESO1                     4   1   5 23C                           DAPRO INTERFACE                                    1.861.854.00
                          4   1  19  14                           CONNECTOR 4               (TC+AES+BNC)
                          4   3   5   2                           DIGITAL OUTPUT (DO)              (XLR)
                          4   3  23   6                           DIGITAL I/O                      (CIS)             1.861.775.00
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AN-CSPDC                 11  20   3   7                           CAPSTAN MOTOR DRIVE AMPLIFIER      P03
                         11  20  42  3A                           CAPSTAN INTERFACE                  J03             1.820.727.00
                         11  20  42  3B                           CAPSTAN INTERFACE                  J03             1.820.727.00
                         11  39   1   7                           FROM GRP20. ELM03                  P01
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AN-ICL                   11  20  40  26                           SPOOLING MOTOR DRIVER              J01             1.820.759.00
                         11  20  47   3                           TAPE DECK SERIAL INTERFACE         J08             1.820.763.00
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AN-ICLD                  11  20   1  13                           SPOOLING MOTOR DRIVE AMP. LEFT     P01
                         11  20  40  30                           SPOOLING MOTOR DRIVER              J01             1.820.759.00
                         11  33   2  13                           FROM GRP20. ELM01                  P01
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AN-ICR                   11  20  40   1                           SPOOLING MOTOR DRIVER              J01             1.820.759.00
                         11  20  40   3                           SPOOLING MOTOR DRIVER              J01             1.820.759.00
                         11  20  47   4                           TAPE DECK SERIAL INTERFACE         J08             1.820.763.00
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AN-ICRD                  11  20   2  13                           SPOOLING MOTOR DRIVE AMP. RIGHT    P02
                         11  20  40   9                           SPOOLING MOTOR DRIVER              J01             1.820.759.00
                         11  30   2  13                           FROM GRP20. ELM02                  P01
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AN-IRL                   11  20  40  27                           SPOOLING MOTOR DRIVER              J01             1.820.759.00
                         11  20  45   6                           SPOOLING MOTOR CONTROLLER          J06             1.820.760.00
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AN-IRR                   11  20  40   2                           SPOOLING MOTOR DRIVER              J01             1.820.759.00
                         11  20  40   4                           SPOOLING MOTOR DRIVER              J01             1.820.759.00
                         11  20  45   8                           SPOOLING MOTOR CONTROLLER          J06             1.820.760.00
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AN-RES1                  11  20   9   7                           TACHO SENSOR (SPOOLING M. LEFT)    P09
                         11  20  47   7                           TAPE DECK SERIAL INTERFACE         J08             1.820.763.00
                         11  36   1   7                           TACHO SENSOR                       P01             1.820.771.00
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AN-RES2                  11  20  10   7                           TACHO SENSOR (SPOOLING M. RIGHT)   P10
                         11  20  47   8                           TAPE DECK SERIAL INTERFACE         J08             1.820.763.00
                         11  37   1   7                           TACHO SENSOR                       P01             1.820.771.00
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AN-RES3                  11  20  11   7                           MOVE SENSOR                        P11
                         11  20  47   9                           TAPE DECK SERIAL INTERFACE         J08             1.820.763.00
                         11  45   1   7                           FROM GRP20. ELM11                  P01
-----------  -----  --  ---------------  -  --  ----------------  --------------------------------------  ---------  ------------
AN-RES4                  11  20  47  10                           TAPE DECK SERIAL INTERFACE         J08             1.820.763.00
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AN-TTL                   11  20  12   9                           TAPE TENSION SENSOR, LEFT          P12
                         11  20  45   1                           SPOOLING MOTOR CONTROLLER          J06             1.820.760.00
                         11  20  45   3                           SPOOLING MOTOR CONTROLLER          J06             1.820.760.00
                         11  20  47   1                           TAPE DECK SERIAL INTERFACE         J08             1.820.763.00
                                                                                                                              ./.
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******************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                    * 86/12/08 * 10:54 *  P A G E 124  *
******************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                    *
******************************************************************************************************************

SIGNAL NAME   COLOR MI ASY GRP ELM PNT  S LV TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
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<<-- CONT.OF            11  20  47   5                       TAPE DECK SERIAL INTERFACE          J08             1.820.763.00
AN-TTL                  11  42   1   9                       FROM GRP20. ELM12                   P01
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
AN-TTR                  11  20  13   9                       TAPE TENSION SENSOR. RIGHT          P13
                        11  20  45   2                       SPOOLING MOTOR CONTROLLER           J06             1.820.760.00
                        11  20  45   4                       SPOOLING MOTOR CONTROLLER           J06             1.820.760.00
                        11  20  47   2                       TAPE DECK SERIAL INTERFACE          J08             1.820.763.00
                        11  20  47   6                       TAPE DECK SERIAL INTERFACE          J08             1.820.763.00
                        11  43   1   9                       FROM GRP20. ELM13                   P01
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANA-GND                  4   1   1 13A                       ANALOG OUTPUT                                       1.861.751.00
                         4   1   1 13B                       ANALOG OUTPUT                                       1.861.751.00
                         4   1   1 13C                       ANALOG OUTPUT                                       1.861.751.00
                         4   1   1 19A                       ANALOG OUTPUT                                       1.861.751.00
                         4   1   1 19B                       ANALOG OUTPUT                                       1.861.751.00
                         4   1   1 19C                       ANALOG OUTPUT                                       1.861.751.00
                         4   1   1 20A                       ANALOG OUTPUT                                       1.861.751.00
                         4   1   2 13A                       ANALOG INPUT                                        1.861.752.00
                         4   1   2 13B                       ANALOG INPUT                                        1.861.752.00
                         4   1   2 13C                       ANALOG INPUT                                        1.861.752.00
                         4   1   2 19A                       ANALOG INPUT                                        1.861.752.00
                         4   1   2 19B                       ANALOG INPUT                                        1.861.752.00
                         4   1   2 19C                       ANALOG INPUT                                        1.861.752.00
                         4   1  12 15A                       RT/TC CODEC                                         1.861.861.00
                         4   1  12 15B                       RT/TC CODEC                                         1.861.861.00
                         4   1  12 15C                       RT/TC CODEC                                         1.861.861.00
                         4   1  16   1                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   1  16   3                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   1  16   5                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   1  16   7                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   1  16   9                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   1  16  11                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   1  16  13                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   1  23 20A                       POWER SUPPLY                                        1.861.515.00
                         4   1  23 20B                       POWER SUPPLY                                        1.861.515.00
                         4   1  23 20C                       POWER SUPPLY                                        1.861.515.00
                         4   1  23 24A                       POWER SUPPLY                                        1.861.515.00
                         4   1  23 24B                       POWER SUPPLY                                        1.861.515.00
                         4   1  23 24C                       POWER SUPPLY                                        1.861.515.00
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANAIIN-1                 4   1   2 15C                       ANALOG INPUT                                        1.861.752.00
                         4   1  16  25                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   2   4   3                       CHANNEL 1 INPUT              (XLR)                  1.861.775.00
                         4   2  21   4                       CHANNEL 1 I/O (CABLE)        (CIS)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANAIIN-2                 4   1   2 17C                       ANALOG INPUT                                        1.861.752.00
                         4   1  16  23                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   2   2   3                       CHANNEL 2 INPUT              (XLR)                  1.861.775.00
                         4   2  22   4                       CHANNEL 2 I/O (CABLE)        (CIS)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANAIN-1                  4   1   2 15A                       ANALOG INPUT                                        1.861.752.00
                         4   1  16  24                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   2   4   2                       CHANNEL 1 INPUT              (XLR)                  1.861.775.00
                         4   2  21   3                       CHANNEL 1 I/O (CABLE)        (CIS)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
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******************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                    * 86/12/08 * 10:54 *  P A G E 125  *
******************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                 * 86/08/27 - 00                    *
******************************************************************************************************************

SIGNAL NAME   COLOR MI ASY GRP ELM PNT  S LV TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANAIN-2                  4   1   2 17A                       ANALOG INPUT                                        1.861.752.00
                         4   1  16  22                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   2   2   2                       CHANNEL 2 INPUT              (XLR)                  1.861.775.00
                         4   2  22   3                       CHANNEL 2 I/O (CABLE)        (CIS)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANAIOUT1                 4   1   1 15C                       ANALOG OUTPUT                                       1.861.751.00
                         4   1  16  17                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   2   3   3                       CHANNEL 1 OUTPUT             (XLR)                  1.861.775.00
                         4   2  21   7                       CHANNEL 1 I/O (CABLE)        (CIS)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANAIOUT2                 4   1   1 17C                       ANALOG OUTPUT                                       1.861.751.00
                         4   1  16  15                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   2   1   3                       CHANNEL 2 OUTPUT             (XLR)                  1.861.775.00
                         4   2  22   7                       CHANNEL 2 I/O (CABLE)        (CIS)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANAOUT-1                 4   1   1 15A                       ANALOG OUTPUT                                       1.861.751.00
                         4   1  16  16                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   2   3   2                       CHANNEL 1 OUTPUT             (XLR)                  1.861.775.00
                         4   2  21   6                       CHANNEL 1 I/O (CABLE)        (CIS)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANAOUT-2                 4   1   1 17A                       ANALOG OUTPUT                                       1.861.751.00
                         4   1  16  14                       CONNECTOR 1           (ANALOG I/O)                  1.861.775.00
                         4   2   1   2                       CHANNEL 2 OUTPUT             (XLR)                  1.861.775.00
                         4   2  22   6                       CHANNEL 2 I/O (CABLE)        (CIS)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANM-SH1                 11  48   1  26                       FROM GRP50. ELM03
                        11  48   2   8                       CONNECTOR EDIT ASSEMBLY
                        11  49   1   8                       FROM GRP48. ELM02
                        11  50   3  26                       CONNECTOR PUSHBUTTON ASSEMBLY       P02
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANM-SH2                 11  48   1  25                       FROM GRP50. ELM03
                        11  48   2  10                       CONNECTOR EDIT ASSEMBLY
                        11  49   1  10                       FROM GRP48. ELM02
                        11  50   3  25                       CONNECTOR PUSHBUTTON ASSEMBLY       P02
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
ANM-SH3                 11  48   1  24                       FROM GRP50. ELM03
                        11  48   2   9                       CONNECTOR EDIT ASSEMBLY
                        11  49   1   9                       FROM GRP48. ELM02
                        11  50   3  24                       CONNECTOR PUSHBUTTON ASSEMBLY       P02
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
AUX3GNDI      8          1  76   3   1                       AUX 3 INPUT PLUG          (XLR FEMALE)              1.861.586.00
              8          1  76   4   9                       CUE I/O                (CIS 10 FEMALE)              1.861.586.00
                         1  80   1  5A                       CUE/PQ DELAY                                        1.861.816.00
              4          1  80  16  18                       RACK-CUE I/O             (25 PIN D-SUB)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
AUX3GNDO      8          1  76   2   1                       AUX 3 OUTPUT PLUG           (XLR MALE)              1.861.586.00
              8          1  76   4   6                       CUE I/O                (CIS 10 FEMALE)              1.861.586.00
                         1  80   6  7A                       ANALOG ROUTING                                      1.861.814.00
              4          1  80  16  16                       RACK-CUE I/O             (25 PIN D-SUB)
------------- ----- -- ---------------  - -- --------------- ---------------------------------------  ---------  ---------------
AUX3IIN       6          1  76   3   3                       AUX 3 INPUT PLUG          (XLR FEMALE)              1.861.586.00
              6          1  76   4  10                       CUE I/O                (CIS 10 FEMALE)              1.861.586.00
                         1  80   1  4C                       CUE/PQ DELAY                                        1.861.816.00
              6          1  80  16   6                       RACK-CUE I/O             (25 PIN D-SUB)
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****************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T               * 86/12/08  *  10:54  *  P A G E 126   *
****************************************************************************************************************
*          1.861.022.00  D820X PCM RECORDER                             * 86/08/27 - 00                         *
****************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
AUX3IN       9           1  76   3   2                          AUX 3 INPUT PLUG          (XLR FEMALE)                1.861.586.00
             9           1  76   4   8                          CUE I/O               (CIS 10 FEMALE)                 1.861.586.00
                         1  80   1   4A                         CUE/PC DELAY                                          1.861.816.00
             9           1  80  16   5                          RACK-CUE I/O           (25 PIN D-SUB)
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AUX3IOUT     6           1  76   2   3                          AUX 3 OUTPUT PLUG          (XLR MALE)                 1.861.586.00
             6           1  76   4   7                          CUE I/O               (CIS 10 FEMALE)                 1.861.586.00
                         1  80   6   6C                         ANALOG ROUTING                                        1.861.814.00
             6           1  80  16   4                          RACK-CUE I/O           (25 PIN D-SUB)
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AUX3OUT      9           1  76   2   2                          AUX 3 OUTPUT PLUG          (XLR MALE)                 1.861.586.00
             9           1  76   4   5                          CUE I/O               (CIS 10 FEMALE)                 1.861.586.00
                         1  80   6   6A                         ANALOG ROUTING                                        1.861.814.00
             9           1  80  16   3                          RACK-CUE I/O           (25 PIN D-SUB)
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
AUX4GNDO     8           1  76   1   1                          AUX 4 OUTPUT PLUG          (XLR MALE)                 1.861.586.00
             8           1  76   4   2                          CUE I/O               (CIS 10 FEMALE)                 1.861.586.00
                         1  80   6   7C                         ANALOG ROUTING                                        1.861.814.00
             4           1  80  16  14                          RACK-CUE I/O           (25 PIN D-SUB)
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AUX4IOUT     6           1  76   1   3                          AUX 4 OUTPUT PLUG          (XLR MALE)                 1.861.586.00
             6           1  76   4   3                          CUE I/O               (CIS 10 FEMALE)                 1.861.586.00
                         1  80   6   8C                         ANALOG ROUTING                                        1.861.814.00
             6           1  80  16   2                          RACK-CUE I/O           (25 PIN D-SUB)
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AUX4OUT      9           1  76   1   2                          AUX 4 OUTPUT PLUG          (XLR MALE)                 1.861.586.00
             9           1  76   4   1                          CUE I/O               (CIS 10 FEMALE)                 1.861.586.00
                         1  80   6   8A                         ANALOG ROUTING                                        1.861.814.00
             9           1  80  16   1                          RACK-CUE I/O           (25 PIN D-SUB)
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BLISYN                   1  73   3   1                          BOX-RACK 3 (CAGE)     (25 PIN D-SUB)                  1.861.583.00
                         2   1   1   1                          REARPANEL TC (BOX)       (D-SUB 25P)                  1.861.895.00
                         2   1   5  20C                         WRITE AMPLIFIER                                       1.861.803.00
                         4   1  10  29C                         TRANSFORMATTER                                        1.861.859.00
                         4   1  18   1                          CONNECTOR 3        (BACKPANEL RACK 3)
                         4   1  52   1                          BOX-RACK 3 CONNECTOR           (CABLE)
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BLSYN                    1  73   3  14                          BOX-RACK 3 (CAGE)     (25 PIN D-SUB)                  1.861.583.00
                         2   1   1  14                          REARPANEL TD (BOX)       (D-SUB 25P)                  1.861.895.00
                         2   1   5  20A                         WRITE AMPLIFIER                                       1.861.803.00
                         4   1  10  29A                         TRANSFORMATTER                                        1.861.859.00
                         4   1  18  14                          CONNECTOR 3        (BACKPANEL RACK 3)
                         4   1  52  14                          BOX-RACK 3 CONNECTOR           (CABLE)
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
BM-0.2                  11  48   1   6                          FROM GRP50. ELM03
                        11  48   3   8                          WIRE FIELD
                        11  50   3   6                          CONNECTOR PUSHBUTTON ASSEMBLY      P02
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BM-0.3                  11  48   1   7                          FROM GRP50. ELM03
                        11  48   3   7                          WIRE FIELD
                        11  50   3   7                          CONNECTOR PUSHBUTTON ASSEMBLY      P02
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BM-0.4                  11  48   1   8                          FROM GRP50. ELM03
                        11  48   3   6                          WIRE FIELD
                        11  50   3   8                          CONNECTOR PUSHBUTTON ASSEMBLY      P02
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****************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T               * 86/12/08  *  10:54  *  P A G E 127   *
****************************************************************************************************************
*          1.861.022.00  D820X PCM RECORDER                             * 86/08/27 - 00                         *
****************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
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BM-0.5                  11  48   1   9                          FROM GRP50. ELM03
                        11  48   3   5                          WIRE FIELD
                        11  50   3   9                          CONNECTOR PUSHBUTTON ASSEMBLY      P02
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BM-0.6                  11  48   1  10                          FROM GRP50. ELM03
                        11  48   3   4                          WIRE FIELD
                        11  50   3  10                          CONNECTOR PUSHBUTTON ASSEMBLY      P02
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BM-0.7                  11  48   1  11                          FROM GRP50. ELM03
                        11  48   3   3                          WIRE FIELD
                        11  50   3  11                          CONNECTOR PUSHBUTTON ASSEMBLY      P02
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BMCAUX                   3   3   6   2                          DATA MP KEYBOARD     (FLATCABLE 26P)                  1.861.746.00
                         3   8   1   2                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)                   1.861.745.00
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BMCCH1                   3   3   6  12                          DATA MP KEYBOARD     (FLATCABLE 26P)                  1.861.746.00
                         3   8   1  12                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)                   1.861.745.00
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
BMCCH2                   3   3   6  10                          DATA MP KEYBOARD     (FLATCABLE 26P)                  1.861.746.00
                         3   8   1  10                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)                   1.861.745.00
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
BMCINP                   3   3   6  16                          DATA MP KEYBOARD     (FLATCABLE 26P)                  1.861.746.00
                         3   8   1  16                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)                   1.861.745.00
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BMCMIX                   3   3   6   6                          DATA MP KEYBOARD     (FLATCABLE 26P)                  1.861.746.00
                         3   8   1   6                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)                   1.861.745.00
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
BMCTAP                   3   3   6  14                          DATA MP KEYBOARD     (FLATCABLE 26P)                  1.861.746.00
                         3   8   1  14                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)                   1.861.745.00
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
BMCUE1                   3   3   6   8                          DATA MP KEYBOARD     (FLATCABLE 26P)                  1.861.746.00
                         3   8   1   8                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)                   1.861.745.00
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
BMCUE2                   3   3   6   4                          DATA MP KEYBOARD     (FLATCABLE 26P)                  1.861.746.00
                         3   8   1   4                          DATA MP AMPLIF (FLATCAB. SOLD. 26P)                   1.861.745.00
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
BR-FADRY                11  25   3   8          B               CONN. PARALLEL REMOTE CONTROL      J03
                        11  27   4  15                          TO CONN. PARALLEL REMOTE CONTR.    P04
-----------  -----  --  ---------------  -  --  --------------  --------------------------------------  ---------  --------------
BR-FORW                 11  25   2   3          B               CONNECTOR SYNCHRONIZER             J02
                        11  25   3   3          B               CONN. PARALLEL REMOTE CONTROL      J03
                        11  27   3   5                          TO CONNECTOR SYNCHRONIZER          P03
                        11  27   4   5                          TO CONN. PARALLEL REMOTE CONTR.    P04
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BR-LOCST                11  25   3   7          B               CONN. PARALLEL REMOTE CONTROL      J03
                        11  27   4  13                          TO CONN. PARALLEL REMOTE CONTR.    P04
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BR-PLAY                 11  25   2  15          B               CONNECTOR SYNCHRONIZER             J02
                        11  25   3  15          B               CONN. PARALLEL REMOTE CONTROL      J03
                        11  27   3   4                          TO CONNECTOR SYNCHRONIZER          P03
                        11  27   4   4                          TO CONN. PARALLEL REMOTE CONTR.    P04
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BR-REC                  11  25   2   9          B               CONNECTOR SYNCHRONIZER             J02
                        11  25   3   9          B               CONN. PARALLEL REMOTE CONTROL      J03
                        11  27   3  17                          TO CONNECTOR SYNCHRONIZER          P03
                        11  27   4  17                          TO CONN. PARALLEL REMOTE CONTR.    P04
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*****************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                      * 86/12/08  *  10:54  *   P A G E 128   *
*****************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                      * 86/08/27 - 00                          *
*****************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S LV  TYPE            DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
-----------   -----  --  ---------------  - --  --------------  ------------------------------------  ---------  ------------
BR-REW                    11  25   2   2        B               CONNECTOR SYNCHRONIZER           J02
                          11  25   3   2        B               CONN. PARALLEL REMOTE CONTROL    J03
                          11  27   3   3                        TO CONNECTOR SYNCHRONIZER        P03
                          11  27   4   3                        TO CONN. PARALLEL REMOTE CONTR.  P04
-----------   -----  --  ---------------  - --  --------------  ------------------------------------  ---------  ------------
BR-STOP                   11  25   2  16        B               CONNECTOR SYNCHRONIZER           J02
                          11  25   3  16        B               CONN. PARALLEL REMOTE CONTROL    J03
                          11  27   3   6                        TO CONNECTOR SYNCHRONIZER        P03
                          11  27   4   6                        TO CONN. PARALLEL REMOTE CONTR.  P04
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BR-VRSPD                  11  25   2   4        B               CONNECTOR SYNCHRONIZER           J02
                          11  25   3   4        B               CONN. PARALLEL REMOTE CONTROL    J03
                          11  27   3   7                        TO CONNECTOR SYNCHRONIZER        P03
                          11  27   4   7                        TO CONN. PARALLEL REMOTE CONTR.  P04
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BSYNCOUT                   4   1   4 23B                        GAINS CONTROL                                    1.861.853.00
                           4   1   5 23B                        DAPRO INTERFACE                                  1.861.854.00
-----------   -----  --  ---------------  - --  --------------  ------------------------------------  ---------  ------------
CBUSAD                     1  73   2  20                        BOX-RACK 2 (RACK)     (25 PIN D-SUB)             1.861.583.00
                           1  80   7  3A                        PDM CONTROL                                      1.861.813.00
                           1  80   8  3A                        DISPLAY INTERFACE                                1.861.817.00
                           1  80  12  15                        RACK-CAGE             (25 PIN D-SUB)
                           1  80  15  20                        BOX-RACK 2 TO REAR PANEL TD                      1.861.583.00
                           2   1   3  15                        BACKPANEL RACK         (D-SUB 25P)               1.861.895.00
                           2   1   4 22A                        DETECTOR                                         1.861.804.00
                           4   1   1 23A                        ANALOG OUTPUT                                    1.861.751.00
                           4   1   2 23A                        ANALOG INPUT                                     1.861.752.00
                           4   1   3 18C                        SPARE 1
                           4   1   4 18C                        GAINS CONTROL                                    1.861.853.00
                           4   1   8 18C                        CODEC CONTROL                                    1.861.857.00
                           4   1  12 18C                        RT/TC CODEC                                      1.861.861.00
                           4   1  13 18C                        TIMING + TEST                                    1.861.862.00
                           4   1  14 18C                        SYSTEM CONTROLLER 1                              1.861.763.00
                           4   1  15 18C                        SYSTEM CONTROLLER 2                              1.861.763.00
                           4   1  22  20                        CONNECTOR 7      (BACKPANEL RACK 2)
                           4   1  51  20                        BOX-RACK 2 CONNECTOR         (CABLE)
-----------   -----  --  ---------------  - --  --------------  ------------------------------------  ---------  ------------
CBUSCLK                    1  73   2  19                        BOX-RACK 2 (RACK)     (25 PIN D-SUB)             1.861.583.00
                           1  80   7  2A                        PDM CONTROL                                      1.861.813.00
                           1  80   8  2A                        DISPLAY INTERFACE                                1.861.817.00
                           1  80  12  16                        RACK-CAGE             (25 PIN D-SUB)
                           1  80  15  19                        BOX-RACK 2 TO REAR PANEL TD                      1.861.583.00
                           2   1   3  16                        BACKPANEL RACK         (D-SUB 25P)               1.861.895.00
                           2   1   4 21A                        DETECTOR                                         1.861.804.00
                           4   1   1 22A                        ANALOG OUTPUT                                    1.861.751.00
                           4   1   2 22A                        ANALOG INPUT                                     1.861.752.00
                           4   1   3 18A                        SPARE 1
                           4   1   4 18A                        GAINS CONTROL                                    1.861.853.00
                           4   1   8 18A                        CODEC CONTROL                                    1.861.857.00
                           4   1  12 18A                        RT/TC CODEC                                      1.861.861.00
                           4   1  13 18A                        TIMING + TEST                                    1.861.862.00
                           4   1  14 18A                        SYSTEM CONTROLLER 1                              1.861.763.00
                           4   1  15 18A                        SYSTEM CONTROLLER 2                              1.861.763.00
                           4   1  22  19                        CONNECTOR 7      (BACKPANEL RACK 2)
                           4   1  51  19                        BOX-RACK 2 CONNECTOR         (CABLE)
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*****************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                      * 86/12/08  *  10:54  *   P A G E 129   *
*****************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                      * 86/08/27 - 00                          *
*****************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S LV  TYPE            DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
-----------   -----  --  ---------------  - --  --------------  ------------------------------------  ---------  ------------
CBUSDAT                    1  73   2  21                        BOX-RACK 2 (RACK)     (25 PIN D-SUB)             1.861.583.00
                           1  80   7  4A                        PDM CONTROL                                      1.861.813.00
                           1  80   8  4A                        DISPLAY INTERFACE                                1.861.817.00
                           1  80  12  14                        RACK-CAGE             (25 PIN D-SUB)
                           1  80  15  21                        BOX-RACK 2 TO REAR PANEL TD                      1.861.583.00
                           2   1   3  14                        BACKPANEL RACK         (D-SUB 25P)               1.861.895.00
                           2   1   4 23A                        DETECTOR                                         1.861.804.00
                           4   1   1 24A                        ANALOG OUTPUT                                    1.861.751.00
                           4   1   2 24A                        ANALOG INPUT                                     1.861.752.00
                           4   1   3 19B                        SPARE 1
                           4   1   4 19B                        GAINS CONTROL                                    1.861.853.00
                           4   1   8 19B                        CODEC CONTROL                                    1.861.857.00
                           4   1  12 19B                        RT/TC CODEC                                      1.861.861.00
                           4   1  13 19B                        TIMING + TEST                                    1.861.862.00
                           4   1  14 19B                        SYSTEM CONTROLLER 1                              1.861.763.00
                           4   1  15 19B                        SYSTEM CONTROLLER 2                              1.861.763.00
                           4   1  22  21                        CONNECTOR 7      (BACKPANEL RACK 2)
                           4   1  51  21                        BOX-RACK 2 CONNECTOR         (CABLE)
-----------   -----  --  ---------------  - --  --------------  ------------------------------------  ---------  ------------
CBUSIAD                    1  73   2   7                        BOX-RACK 2 (RACK)     (25 PIN D-SUB)             1.861.583.00
                           1  80   7  3C                        PDM CONTROL                                      1.861.813.00
                           1  80   8  3C                        DISPLAY INTERFACE                                1.861.817.00
                           1  80  12   2                        RACK-CAGE             (25 PIN D-SUB)
                           1  80  15   7                        BOX-RACK 2 TO REAR PANEL TD                      1.861.583.00
                           2   1   3   2                        BACKPANEL RACK         (D-SUB 25P)               1.861.895.00
                           2   1   4 22C                        DETECTOR                                         1.861.804.00
                           4   1   1 23B                        ANALOG OUTPUT                                    1.861.751.00
                           4   1   2 23B                        ANALOG INPUT                                     1.861.752.00
                           4   1   3 19A                        SPARE 1
                           4   1   4 19A                        GAINS CONTROL                                    1.861.853.00
                           4   1   8 19A                        CODEC CONTROL                                    1.861.857.00
                           4   1  12 19A                        RT/TC CODEC                                      1.861.861.00
                           4   1  13 19A                        TIMING + TEST                                    1.861.862.00
                           4   1  14 19A                        SYSTEM CONTROLLER 1                              1.861.763.00
                           4   1  15 19A                        SYSTEM CONTROLLER 2                              1.861.763.00
                           4   1  22   7                        CONNECTOR 7      (BACKPANEL RACK 2)
                           4   1  51   7                        BOX-RACK 2 CONNECTOR         (CABLE)
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CBUSICLK                   1  73   2   6                        BOX-RACK 2 (RACK)     (25 PIN D-SUB)             1.861.583.00
                           1  80   7  2C                        PDM CONTROL                                      1.861.813.00
                           1  80   8  2C                        DISPLAY INTERFACE                                1.861.817.00
                           1  80  12   3                        RACK-CAGE             (25 PIN D-SUB)
                           1  80  15   6                        BOX-RACK 2 TO REAR PANEL TD                      1.861.583.00
                           2   1   3   3                        BACKPANEL RACK         (D-SUB 25P)               1.861.895.00
                           2   1   4 21C                        DETECTOR                                         1.861.804.00
                           4   1   1 22B                        ANALOG OUTPUT                                    1.861.751.00
                           4   1   2 22B                        ANALOG INPUT                                     1.861.752.00
                           4   1   3 18B                        SPARE 1
                           4   1   4 18B                        GAINS CONTROL                                    1.861.853.00
                           4   1   8 18B                        CODEC CONTROL                                    1.861.857.00
                           4   1  12 18B                        RT/TC CODEC                                      1.861.861.00
                           4   1  13 18B                        TIMING + TEST                                    1.861.862.00
                           4   1  14 18B                        SYSTEM CONTROLLER 1                              1.861.763.00
                           4   1  15 18B                        SYSTEM CONTROLLER 2                              1.861.763.00
                           4   1  22   6                        CONNECTOR 7      (BACKPANEL RACK 2)
                           4   1  51   6                        BOX-RACK 2 CONNECTOR         (CABLE)
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**************************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                       *  86/12/08  *  10:54  *    P A G E 130    *
**************************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                           *  86/08/27 - 00                              *
**************************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CBUSIDAT                   1  73   2    8                         BOX-RACK 2 (RACK)     (25 PIN D-SUB)               1.861.583.00
                           1  80   7   4C                         PDM CONTROL                                        1.861.813.00
                           1  80   8   4C                         DISPLAY INTERFACE                                  1.861.817.00
                           1  80  12    1                         RACK-CAGE             (25 PIN D-SUB)
                           1  80  15    8                         BOX-RACK 2 TO REAR PANEL TD                        1.861.583.00
                           2   1   3    1                         BACKPANEL RACK           (D-SUB 25P)               1.861.895.00
                           2   1   4  23C                         DETECTOR                                           1.861.804.00
                           4   1   1  24B                         ANALOG OUTPUT                                      1.861.751.00
                           4   1   2  24B                         ANALOG INPUT                                       1.861.752.00
                           4   1   3  19C                         SPARE 1
                           4   1   4  19C                         GAINS CONTROL                                      1.861.853.00
                           4   1   8  19C                         CODEC CONTROL                                      1.861.857.00
                           4   1  12  19C                         RT/TC CODEC                                        1.861.861.00
                           4   1  13  19C                         TIMING + TEST                                      1.861.862.00
                           4   1  14  19C                         SYSTEM CONTROLLER 1                                1.861.763.00
                           4   1  15  19C                         SYSTEM CONTROLLER 2                                1.861.763.00
                           4   1  22    8                         CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51    8                         BOX-RACK 2 CONNECTOR          (CABLE)
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCADDRDE                   4   1   8  20B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  20B                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCADEC                     4   1   8  11B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  11B                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAH1                      4   1   8   9A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   9A                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAH2                      4   1   8   9B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   9B                         CODEC MEMORY                                       1.861.858.00
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CCAH3                      4   1   8   9C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   9C                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAH4                      4   1   8  10A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  10A                         CODEC MEMORY                                       1.861.858.00
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CCAH5                      4   1   8  10B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  10B                         CODEC MEMORY                                       1.861.858.00
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CCAH6                      4   1   8  10C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  10C                         CODEC MEMORY                                       1.861.858.00
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CCAH7                      4   1   8  11A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  11A                         CODEC MEMORY                                       1.861.858.00
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CCAL0                      4   1   8   4A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   4A                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAL1                      4   1   8   4B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   4B                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAL2                      4   1   8   4C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   4C                         CODEC MEMORY                                       1.861.858.00
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**************************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                       *  86/12/08  *  10:54  *    P A G E 131    *
**************************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                           *  86/08/27 - 00                              *
**************************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAL3                      4   1   8   7A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   7A                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAL4                      4   1   8   7B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   7B                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAL5                      4   1   8   7C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   7C                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAL6                      4   1   8   8A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   8A                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCAL7                      4   1   8   8B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   8B                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCBLCRC                    4   1   8  29C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  29C                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCCRC                      4   1   8  16C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  16C                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCECD                      4   1   8  15B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  15B                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCEE0                      4   1   8  29A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  29A                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCEE1                      4   1   8  29B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  29B                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCENCIN                    4   1   8  20C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  20C                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCE0                       4   1   8  15A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  15A                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCE1                       4   1   8  14C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  14C                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCFBCLR                    4   1   8  21A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  21A                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCIDIS                     4   1   8  23A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  23B                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCIGMASK                   4   1   8  24A                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  17B                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCILV                      4   1   8  15C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  15C                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCIPRSPL                   4   1   8  24B                         CODEC CONTROL                                      1.861.857.00
                           4   1   9  24C                         CODEC MEMORY                                       1.861.858.00
------------  -----  --  --------------  -  --  ---------------  --------------------------------------  ---------  ------------
CCIR5                      4   1   8   8C                         CODEC CONTROL                                      1.861.857.00
                           4   1   9   8C                         CODEC MEMORY                                       1.861.858.00
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*********************************************************************************************************************************
*   WILLI STUDER AG   *     S  I  G  N  A  L     W  I  R  E     L  I  S  T                    * 86/12/08  * 10:54  *  P A G E 132  *
*********************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                                  * 86/08/27 - 00                    *
*********************************************************************************************************************************

SIGNAL NAME     COLOR  MI  ASY GRP ELM PNT S  LV  TYPE              DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CCK5                         4   1   8 22A                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 22A                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CCPR-1                       4   1   8 11C                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 11C                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CCQECD                       4   1   8 16A                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 16A                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CCQECDM                      4   1   8 16B                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 16B                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CCRDERR                      4   1   8 26B                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 26B                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CCREPRO                      4   1   8 20A                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 20A                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CCWDERR                      4   1   8 21C                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 21C                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CCWRERR                      4   1   8 26C                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 26C                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CC0                          4   1   8 12A                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 12A                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CC1                          4   1   8 12B                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 12B                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CC2                          4   1   8 12C                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 12C                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CC3                          4   1   8 13A                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 13A                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CC4                          4   1   8 13B                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 13B                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CC5                          4   1   8 13C                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 13C                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CC6                          4   1   8 14A                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 14A                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CC7                          4   1   8 14B                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 14B                          CODEC MEMORY                                        1.861.858.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CHAESB                       4   1   4  7B                          GAINS CONTROL                                       1.861.853.00
                             4   1   5  8B                          DAPRO INTERFACE                                     1.861.854.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CHASEL1                      1  80   6 29A                          ANALOG ROUTING                                      1.861.814.00
                             1  80   7 29C                          PDM CONTROL                                         1.861.813.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CHASEL2                      1  80   6 29C                          ANALOG ROUTING                                      1.861.814.00
                             1  80   7 29A                          PDM CONTROL                                         1.861.813.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
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*********************************************************************************************************************************
*   WILLI STUDER AG   *     S  I  G  N  A  L     W  I  R  E     L  I  S  T                    * 86/12/08  * 10:54  *  P A G E 133  *
*********************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                                  * 86/08/27 - 00                    *
*********************************************************************************************************************************

SIGNAL NAME     COLOR  MI  ASY GRP ELM PNT S  LV  TYPE              DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CLK1                         4   1  10 25A                          TRANSFORMATTER                                      1.861.859.00
                             4   1  11 24A                          RUN PROCESSOR                                       1.861.860.00
                             4   1  13 24A                          TIMING + TEST                                       1.861.862.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CLK4                         4   1   4 25A                          GAINS CONTROL                                       1.861.853.00
                             4   1   5 25A                          DAPRO INTERFACE                                     1.861.854.00
                             4   1   6 25A                          DATA PROCESSOR                                      1.861.855.00
                             4   1   7 25A                          COEFFICIENT GENERATOR                               1.861.856.00
                             4   1  10 25B                          TRANSFORMATTER                                      1.861.859.00
                             4   1  13 24B                          TIMING + TEST                                       1.861.862.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CLK5                         4   1   5 25B                          DAPRO INTERFACE                                     1.861.854.00
                             4   1   7 25B                          COEFFICIENT GENERATOR                               1.861.856.00
                             4   1   8 21B                          CODEC CONTROL                                       1.861.857.00
                             4   1  10 25C                          TRANSFORMATTER                                      1.861.859.00
                             4   1  12 12B                          RT/TC CODEC                                         1.861.861.00
                             4   1  13 24C                          TIMING + TEST                                       1.861.862.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CLK6                         4   1   8 25A                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 25A                          CODEC MEMORY                                        1.861.858.00
                             4   1  10 26A                          TRANSFORMATTER                                      1.861.859.00
                             4   1  11 25A                          RUN PROCESSOR                                       1.861.860.00
                             4   1  13 25A                          TIMING + TEST                                       1.861.862.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CLK7                         4   1   8 25B                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 25B                          CODEC MEMORY                                        1.861.858.00
                             4   1  13 25B                          TIMING + TEST                                       1.861.862.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CLK8                         4   1   8 25C                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 25C                          CODEC MEMORY                                        1.861.858.00
                             4   1  13 25C                          TIMING + TEST                                       1.861.862.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CLK9                         4   1   8 26A                          CODEC CONTROL                                       1.861.857.00
                             4   1   9 26A                          CODEC MEMORY                                        1.861.858.00
                             4   1  13 26A                          TIMING + TEST                                       1.861.862.00
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CODE                         3   3   2   1                          AUDIO SPEAKER RIGHT     (CIS 3P) J3                 1.861.746.00
                             3   3   3   2                          AUDIO SPEAKER LEFT      (CIS 5P) J4                 1.861.746.00
                             3   3   4   1                          AUDIO PHONES PLUG       (CIS 6P) J2                 1.861.746.00
                             3   3   4   3                          AUDIO PHONES PLUG       (CIS 6P) J2                 1.861.746.00
                             3   3   5   4                          TO TANDEM POT           (CIS 6P) J1                 1.912.001.30
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CPHASE-R        2           11  38   1   1        F                 FROM GRP39. ELM02                     J01
                2           11  38   4   1        L                 STATOR (WIRE FIELD)
                            11  39   2   1        M                 TO GRP38. ELM01                       P02
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CPHASE-S        0           11  38   1   3        F                 FROM GRP39. ELM02                     J01
                0           11  38   4   2        L                 STATOR (WIRE FIELD)
                            11  39   2   3        M                 TO GRP38. ELM01                       P02
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CPHASE-T        9           11  38   1   2        F                 FROM GRP39. ELM02                     J01
                9           11  38   4   3        L                 STATOR (WIRE FIELD)
                            11  39   2   2        M                 TO GRP38. ELM01                       P02
------------    -----  --  --------------- -  --  --------------    ----------------------------------------  ---------  ------------
CC                           2   1   4 29B                          DETECTOR                                            1.861.804.00
                             2   1   7 29B                          PLAYBACK AMPLIFIER                                  1.861.801.00
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************************************************************************************************************************************
*    WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                    *  86/12/08  *  10:54  *   P A G E 134    *
************************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                                 *
************************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                     REMARK      ELEMENT NR.
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
C1                        2   1   4 28B                          DETECTOR                                               1.861.804.00
                          2   1   7 28B                          PLAYBACK AMPLIFIER                                     1.861.801.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
C2                        2   1   4 27B                          DETECTOR                                               1.861.804.00
                          2   1   7 27B                          PLAYBACK AMPLIFIER                                     1.861.801.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
C3                        2   1   4 26B                          DETECTOR                                               1.861.804.00
                          2   1   7 26B                          PLAYBACK AMPLIFIER                                     1.861.801.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
D-WRITE                   3   1   2  19                          DATA OP KEYBOARD    (FLATCABLE 26P)                    1.861.742.00
                          3   9   1  19                          DATA OP PROC  (FLATCAB. SOLD. 26P.)                    1.861.741.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DABCDA1                   4   1   1  7A                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 11C                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DACOUT1                   1  73   1   1                          BOX-RACK 1 (RACK)     (25 PIN D-SUB)                   1.861.583.00
                          1  80   6  2A                          ANALOG ROUTING                                         1.861.814.00
                          1  80  14   1                          BOX-RACK 1 TO REAR PANEL TO
                          4   1   1 14B                          ANALOG OUTPUT                                          1.861.751.00
                          4   1  17   1                          CONNECTOR 2        (BACKPANEL RACK 1)
                          4   1  50   1                          BOX-RACK 1 CONNECTOR        (CABLE)
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DACOUT2                   1  73   1   2                          BOX-RACK 1 (RACK)     (25 PIN D-SUB)                   1.861.583.00
                          1  80   6  3A                          ANALOG ROUTING                                         1.861.814.00
                          1  80  14   2                          BOX-RACK 1 TO REAR PANEL TO
                          4   1   1 18B                          ANALOG OUTPUT                                          1.861.751.00
                          4   1  17   2                          CONNECTOR 2        (BACKPANEL RACK 1)
                          4   1  50   2                          BOX-RACK 1 CONNECTOR        (CABLE)
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DADAT11                   4   1   1 30A                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 12B                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DADAT21                   4   1   1 29A                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 13A                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DAIBCDA1                  4   1   1  7B                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 12A                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DAIDAT11                  4   1   1 30B                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 12C                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DAIDAT21                  4   1   1 29B                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 13B                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DAIVAL1A                  4   1   1 31B                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 11B                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DAI96FS                   4   1   1 10B                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 10B                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DAVAL1A                   4   1   1 31A                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 11A                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DA96FS                    4   1   1 10A                          ANALOG OUTPUT                                          1.861.751.00
                          4   1   5 10A                          DAPRO INTERFACE                                        1.861.854.00
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************************************************************************************************************************************
*    WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                    *  86/12/08  *  10:54  *   P A G E 135    *
************************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                    *  86/08/27 - 00                                 *
************************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                     REMARK      ELEMENT NR.
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DCDAPDEC                  4   1   7 22C                          COEFFICIENT GENERATOR                                  1.861.856.00
                          4   1   9 22C                          CODEC MEMORY                                           1.861.858.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DCD1CLK                   4   1   7 19A                          COEFFICIENT GENERATOR                                  1.861.856.00
                          4   1   8 17A                          CODEC CONTROL                                          1.861.857.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DCD2CLK                   4   1   7 19B                          COEFFICIENT GENERATOR                                  1.861.856.00
                          4   1   8 17B                          CODEC CONTROL                                          1.861.857.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DCENCDAP                  4   1   5 22B                          DAPRO INTERFACE                                        1.861.854.00
                          4   1   9 22B                          CODEC MEMORY                                           1.861.858.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DCFMUT                    4   1   6 23B                          DATA PROCESSOR                                         1.861.855.00
                          4   1   8 23B                          CODEC CONTROL                                          1.861.857.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DCFSPL                    4   1   6 23C                          DATA PROCESSOR                                         1.861.855.00
                          4   1   8 23C                          CODEC CONTROL                                          1.861.857.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DCIDAVAL                  4   1   5 19C                          DAPRO INTERFACE                                        1.861.854.00
                          4   1   9 17C                          CODEC MEMORY                                           1.861.858.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DCINIT                    4   1   4 29C                          GAINS CONTROL                                          1.861.853.00
                          4   1   6 29A                          DATA PROCESSOR                                         1.861.855.00
                          4   1   8 17C                          CODEC CONTROL                                          1.861.857.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DCINVAL                   4   1   6 23A                          DATA PROCESSOR                                         1.861.855.00
                          4   1   9 23A                          CODEC MEMORY                                           1.861.858.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DDATAAES                  4   1   4 15A                          GAINS CONTROL                                          1.861.853.00
                          4   1   5  9A                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DDBCLK                    4   1   4  7A                          GAINS CONTROL                                          1.861.853.00
                          4   1   5  8A                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DDBSYNIN                  4   1   4  7C                          GAINS CONTROL                                          1.861.853.00
                          4   1   5  8C                          DAPRO INTERFACE                                        1.861.854.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DDB1D14                   4   1   6 14C                          DATA PROCESSOR                                         1.861.855.00
                          4   1   7 14C                          COEFFICIENT GENERATOR                                  1.861.856.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DDB2D13                   4   1   6 15A                          DATA PROCESSOR                                         1.861.855.00
                          4   1   7 15A                          COEFFICIENT GENERATOR                                  1.861.856.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DDB2D14                   4   1   6 15B                          DATA PROCESSOR                                         1.861.855.00
                          4   1   7 15B                          COEFFICIENT GENERATOR                                  1.861.856.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DDB2D15                   4   1   6 15C                          DATA PROCESSOR                                         1.861.855.00
                          4   1   7 15C                          COEFFICIENT GENERATOR                                  1.861.856.00
-----------  -----  --  ---------------  -  --  ---------------  ------------------------------------------ ----------  ------------
DDCHPRO                   4   1   4 14A                          GAINS CONTROL                                          1.861.853.00
                          4   1   5  4C                          DAPRO INTERFACE                                        1.861.854.00
                          4   1   5 14A                          DAPRO INTERFACE                                        1.861.854.00
                          4   1   6 14A                          DATA PROCESSOR                                         1.861.855.00
                          4   1   7 14A                          COEFFICIENT GENERATOR                                  1.861.856.00
                          4   1  13  4C                          TIMING + TEST                                          1.861.862.00
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*******************************************************************************************************
*   WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T       * 86/12/08 *  10:54 *   P A G E 136   *
*******************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                    * 86/08/27 - 00                       *
*******************************************************************************************************

SIGNAL NAME  COLOR MI  ASY GRP ELM PNT  S LV  TYPE             DESCRIPTION OF ELEMENT                 REMARK      ELEMENT NR.
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDCHSTAT                4   1   4  15C                         GAINS CONTROL                                         1.861.853.00
                        4   1   5   9C                         DAPRO INTERFACE                                       1.861.854.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDCK2AES                4   1   4  15B                         GAINS CONTROL                                         1.861.853.00
                        4   1   5   9B                         DAPRO INTERFACE                                       1.861.854.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDCLKG1                 4   1   4   8C                         GAINS CONTROL                                         1.861.853.00
                        4   1   7   8C                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDCLRO                  4   1   6  16B                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  16B                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDC3                    4   1   4  16C                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  16C                         DATA PROCESSOR                                        1.861.855.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDDATAG1                4   1   4   8B                         GAINS CONTROL                                         1.861.853.00
                        4   1   7   8B                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDFADD0                 4   1   4   4B                         GAINS CONTROL                                         1.861.853.00
                        4   1   5   7B                         DAPRO INTERFACE                                       1.861.854.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDFADD1                 4   1   4   4A                         GAINS CONTROL                                         1.861.853.00
                        4   1   5   7A                         DAPRO INTERFACE                                       1.861.854.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDFGAI                  4   1   6  14B                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  14B                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDGRDY1                 4   1   4  10A                         GAINS CONTROL                                         1.861.853.00
                        4   1   7  10A                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDHPOFF                 4   1   4  17C                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  17C                         DATA PROCESSOR                                        1.861.855.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDIDIGMU                4   1   1  12B                         ANALOG OUTPUT                                         1.861.751.00
                        4   1   4  20A                         GAINS CONTROL                                         1.861.853.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDIFVAL                 4   1   4   4C                         GAINS CONTROL                                         1.861.853.00
                        4   1   5   7C                         DAPRO INTERFACE                                       1.861.854.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDISTART                4   1   5  10C                         DAPRO INTERFACE                                       1.861.854.00
                        4   1   6  10C                         DATA PROCESSOR                                        1.861.855.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDLCLK1                 4   1   4   9A                         GAINS CONTROL                                         1.861.853.00
                        4   1   7   9A                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDLCLK10                4   1   4  17A                         GAINS CONTROL                                         1.861.853.00
                        4   1   5  18A                         DAPRO INTERFACE                                       1.861.854.00
                        4   1   6  18A                         DATA PROCESSOR                                        1.861.855.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDLCLK11                4   1   4  17B                         GAINS CONTROL                                         1.861.853.00
                        4   1   5  18B                         DAPRO INTERFACE                                       1.861.854.00
                        4   1   6  18B                         DATA PROCESSOR                                        1.861.855.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDMIEN1                 4   1   6  16A                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  16A                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
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*******************************************************************************************************
*   WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T       * 86/12/08 *  10:54 *   P A G E 137   *
*******************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                    * 86/08/27 - 00                       *
*******************************************************************************************************

SIGNAL NAME  COLOR MI  ASY GRP ELM PNT  S LV  TYPE             DESCRIPTION OF ELEMENT                 REMARK      ELEMENT NR.
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDMUTE                  4   1   4  21A                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  21A                         DATA PROCESSOR                                        1.861.855.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA0                 4   1   4  11A                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  11A                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  11A                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA1                 4   1   4  11B                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  11B                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  11B                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA2                 4   1   4  11C                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  11C                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  11C                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA3                 4   1   4  12A                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  12A                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  12A                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA4                 4   1   4  12B                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  12B                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  12B                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA5                 4   1   4  12C                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  12C                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  12C                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA6                 4   1   4  13A                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  13A                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  13A                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA7                 4   1   4  13B                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  13B                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  13B                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA8                 4   1   4  13C                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  13C                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  13C                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DDPROA9                 4   1   4  10B                         GAINS CONTROL                                         1.861.853.00
                        4   1   6  10B                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7  10B                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DD3HEAD                 4   1   6   9C                         DATA PROCESSOR                                        1.861.855.00
                        4   1   7   9C                         COEFFICIENT GENERATOR                                 1.861.856.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DINT                    4   1  10  20A                         TRANSFORMATTER                                        1.861.859.00
                        4   1  11  20A                         RUN PROCESSOR                                         1.861.860.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DITHER                  4   1   2   9A                         ANALOG INPUT                                          1.861.752.00
-----------  ----- --  ---------------  - --  ---------------  -------------------------------------  ---------  ---------------
DPC3AD                  1  74   1   2                          RACK-CCP/DP            (25-PIN D-SUB)                 1.861.000.00
                        1  8C   8 21C                          DISPLAY INTERFACE                                     1.861.817.00
                        1  8C  18   2                          DISPLAY PANEL/CCP      (25 PIN D-SUB)
                        1  8C  19   2                          RACK-MONITOR PANEL     (D-SUB CRIMP)
                                                                                                                             ./.
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************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                    *  86/12/08  *  10:54  *  P A G E 138  *
************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                 *  86/08/27 - 00                          *
************************************************************************************************************************

SIGNAL NAME    COLOR MI ASY GRP ELM PNT  S LV TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
<<-- CONT.OF              3   1   1    2                      CBUS CCP TRANSCEIVER  (D-SUB 25P F)         0      1.861.742.00
DPCBAD                    3   2   1    2                      BUS REARPANEL TD      (D-SUB 25P M)                1.861.744.00
                          3   2   2    2                      CBUS DP PROCESSOR     (D-SUB 25P F)                1.861.744.00
                          3   3   1    2                      CBUS REARPANEL RACK   (D-SUB 25P M)                1.861.744.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPCBCLK                   1  74   1    1                      RACK-CCP/DP           (25-PIN D-SUB)               1.861.000.00
                          1  80   8  22C                      DISPLAY INTERFACE                                  1.861.817.00
                          1  80  18    1                      DISPLAY PANEL/CCP     (25 PIN D-SUB)
               2          1  80  19    1                      RACK-MONITOR PANEL    (D-SUB CRIMP)
                          3   1   1    1                      CBUS CCP TRANSCEIVER  (D-SUB 25P F)         0      1.861.742.00
                          3   2   1    1                      BUS REARPANEL TD      (D-SUB 25P M)                1.861.744.00
                          3   2   2    1                      CBUS DP PROCESSOR     (D-SUB 25P F)                1.861.744.00
                          3   3   1    1                      CBUS REARPANEL RACK   (D-SUB 25P M)                1.861.744.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPCBDAT                   1  74   1    3                      RACK-CCP/DP           (25-PIN D-SUB)               1.861.000.00
                          1  80   8  20C                      DISPLAY INTERFACE                                  1.861.817.00
                          1  80  18    3                      DISPLAY PANEL/CCP     (25 PIN D-SUB)
               3          1  80  19    3                      RACK-MONITOR PANEL    (D-SUB CRIMP)
                          3   1   1    3                      CBUS CCP TRANSCEIVER  (D-SUB 25P F)         0      1.861.742.00
                          3   2   1    3                      BUS REARPANEL TD      (D-SUB 25P M)                1.861.744.00
                          3   2   2    3                      CBUS DP PROCESSOR     (D-SUB 25P F)                1.861.744.00
                          3   3   1    3                      CBUS REARPANEL RACK   (D-SUB 25P M)                1.861.744.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPCBIAD                   1  74   1   15                      RACK-CCP/DP           (25-PIN D-SUB)               1.861.000.00
                          1  80   8  21A                      DISPLAY INTERFACE                                  1.861.817.00
                          1  80  18   15                      DISPLAY PANEL/CCP     (25 PIN D-SUB)
               9          1  80  19   15                      RACK-MONITOR PANEL    (D-SUB CRIMP)
                          3   1   1   15                      CBUS CCP TRANSCEIVER  (D-SUB 25P F)         0      1.861.742.00
                          3   2   1   15                      BUS REARPANEL TD      (D-SUB 25P M)                1.861.744.00
                          3   2   2   15                      CBUS DP PROCESSOR     (D-SUB 25P F)                1.861.744.00
                          3   3   1   15                      CBUS REARPANEL RACK   (D-SUB 25P M)                1.861.744.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPCBICLK                  1  74   1   14                      RACK-CCP/DP           (25-PIN D-SUB)               1.861.000.00
                          1  80   8  22A                      DISPLAY INTERFACE                                  1.861.817.00
                          1  80  18   14                      DISPLAY PANEL/CCP     (25 PIN D-SUB)
               4          1  80  19   14                      RACK-MONITOR PANEL    (D-SUB CRIMP)
                          3   1   1   14                      CBUS CCP TRANSCEIVER  (D-SUB 25P F)         0      1.861.742.00
                          3   2   1   14                      BUS REARPANEL TD      (D-SUB 25P M)                1.861.744.00
                          3   2   2   14                      CBUS DP PROCESSOR     (D-SUB 25P F)                1.861.744.00
                          3   3   1   14                      CBUS REARPANEL RACK   (D-SUB 25P M)                1.861.744.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPCBIDAT                  1  74   1   16                      RACK-CCP/DP           (25-PIN D-SUB)               1.861.000.00
                          1  80   8  20A                      DISPLAY INTERFACE                                  1.861.817.00
                          1  80  18   16                      DISPLAY PANEL/CCP     (25 PIN D-SUB)
               5          1  80  19   16                      RACK-MONITOR PANEL    (D-SUB CRIMP)
                          3   1   1   16                      CBUS CCP TRANSCEIVER  (D-SUB 25P F)         0      1.861.742.00
                          3   2   1   16                      BUS REARPANEL TD      (D-SUB 25P M)                1.861.744.00
                          3   2   2   16                      CBUS DP PROCESSOR     (D-SUB 25P F)                1.861.744.00
                          3   3   1   16                      CBUS REARPANEL RACK   (D-SUB 25P M)                1.861.744.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPD0                      3   1   2    1                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1    1                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPD1                      3   1   2    3                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1    3                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
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************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                    *  86/12/08  *  10:54  *  P A G E 139  *
************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                 *  86/08/27 - 00                          *
************************************************************************************************************************

SIGNAL NAME    COLOR MI ASY GRP ELM PNT  S LV TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPD2                      3   1   2    5                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1    5                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPD3                      3   1   2    7                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1    7                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPD4                      3   1   2    9                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1    9                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPD5                      3   1   2   11                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1   11                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPD6                      3   1   2   13                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1   13                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPD7                      3   1   2   15                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1   15                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPKEYS                    3   1   2   17                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1   17                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DPMODE                    3   1   2   21                      DATA DP KEYBOARD      (FLATCABLE 26P)              1.861.742.00
                          3   9   1   21                      DATA DP PROC  (FLATCAB. SOLD. 26P.)                1.861.741.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP0                       1  80   1  20C                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  20A                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP1                       1  80   1  20A                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  20C                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP10                      1  80   1  25C                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  25A                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP11                      1  80   1  25A                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  25C                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP12                      1  80   1  26C                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  26A                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP13                      1  80   1  26A                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  26C                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP14                      1  80   1  27C                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  27A                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP15                      1  80   1  27A                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  27C                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP2                       1  80   1  21C                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  21A                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP3                       1  80   1  21A                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  21C                      PDM MODULATOR                                      1.861.811.00
-------------- ----- -- ---------------  - -- --------------- --------------------------------------- ---------- ------------
DP4                       1  80   1  22C                      CUE/PC DELAY                                       1.861.816.00
                          1  80   2  22A                      PDM MODULATOR                                      1.861.811.00
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************************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                            *  86/12/08  *  10:54  *  P A G E 140   *
************************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                          *  86/08/27 - 00                           *
************************************************************************************************************************************

SIGNAL NAME    COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                      REMARK     ELEMENT NR.
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DP5                         1  80   1  22A                         CUE/PQ DELAY                                           1.861.816.00
                            1  80   2  22C                         PDM MODULATOR                                          1.861.811.00
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DP6                         1  80   1  23C                         CUE/PQ DELAY                                           1.861.816.00
                            1  80   2  23A                         PDM MODULATOR                                          1.861.811.00
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DP7                         1  80   1  23A                         CUE/PQ DELAY                                           1.861.816.00
                            1  80   2  23C                         PDM MODULATOR                                          1.861.811.00
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DP8                         1  80   1  24C                         CUE/PQ DELAY                                           1.861.816.00
                            1  80   2  24A                         PDM MODULATOR                                          1.861.811.00
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DP9                         1  80   1  24A                         CUE/PQ DELAY                                           1.861.816.00
                            1  80   2  24C                         PDM MODULATOR                                          1.861.811.00
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPA-0                      1  70   1   15                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7   6A                         PDM CONTROL                                            1.861.813.00
                            1  80  17    8                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPA-1                      1  70   1   16                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7   6C                         PDM CONTROL                                            1.861.813.00
                            1  80  17   21                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPA-2                      1  70   1   17                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7   7A                         PDM CONTROL                                            1.861.813.00
                            1  80  17    9                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPA-3                      1  70   1   18                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7   7C                         PDM CONTROL                                            1.861.813.00
                            1  80  17   22                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPA-4                      1  70   1   19                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7   8A                         PDM CONTROL                                            1.861.813.00
                            1  80  17   10                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPA-5                      1  70   1   20                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7   8C                         PDM CONTROL                                            1.861.813.00
                            1  80  17   23                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPA-6                      1  70   1   21                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7   9A                         PDM CONTROL                                            1.861.813.00
                            1  80  17   11                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPA-7                      1  70   1   22                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7   9C                         PDM CONTROL                                            1.861.813.00
                            1  80  17   24                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPB-0                      1  70   1   14                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7  10A                         PDM CONTROL                                            1.861.813.00
                            1  80  17   20                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPB-1                      1  70   1   13                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7  10C                         PDM CONTROL                                            1.861.813.00
                            1  80  17    7                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
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************************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                            *  86/12/08  *  10:54  *  P A G E 141   *
************************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                          *  86/08/27 - 00                           *
************************************************************************************************************************************

SIGNAL NAME    COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                      REMARK     ELEMENT NR.
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPB-2                      1  70   1   12                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7  11A                         PDM CONTROL                                            1.861.813.00
                            1  80  17   19                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPB-3                      1  70   1   11                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7  11C                         PDM CONTROL                                            1.861.813.00
                            1  80  17    6                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPB-4                      1  70   1   10                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7  12A                         PDM CONTROL                                            1.861.813.00
                            1  80  17   18                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPB-5                      1  70   1    9                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7  12C                         PDM CONTROL                                            1.861.813.00
                            1  80  17    5                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPB-6                      1  70   1    8                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7  13A                         PDM CONTROL                                            1.861.813.00
                            1  80  17   17                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSPB-7                      1  70   1    7                         SIGNAL QUALITY    (26-PIN FLATCABLE)                   1.861.731.00
                            1  80   7  13C                         PDM CONTROL                                            1.861.813.00
                            1  80  17    4                         SIGNAL QUALITY DISPL.(25 PIN D-SUB)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DSSY                        4   1  10  10C                         TRANSFORMATTER                                         1.861.859.00
                            4   1  12  10C                         RT/TC CODEC                                            1.861.861.00
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DTRI1                       1  73   3   12                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)                    1.861.583.00
                            2   1   1   12                         REARPANEL TO (BOX)     (D-SUB 25P)                     1.861.895.00
                            2   1   4  10C                         DETECTOR                                               1.861.804.00
                            4   1  11   7B                         RUN PROCESSOR                                          1.861.860.00
                            4   1  18   12                         CONNECTOR 3      (BACKPANEL RACK 3)
                            4   1  52   12                         BOX-RACK 3 CONNECTOR        (CABLE)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DTRI2                       1  73   3   11                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)                    1.861.583.00
                            2   1   1   11                         REARPANEL TO (BOX)     (D-SUB 25P)                     1.861.895.00
                            2   1   4  11C                         DETECTOR                                               1.861.804.00
                            4   1  11   8B                         RUN PROCESSOR                                          1.861.860.00
                            4   1  18   11                         CONNECTOR 3      (BACKPANEL RACK 3)
                            4   1  52   11                         BOX-RACK 3 CONNECTOR        (CABLE)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DTRI3                       1  73   3   10                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)                    1.861.583.00
                            2   1   1   10                         REARPANEL TO (BOX)     (D-SUB 25P)                     1.861.895.00
                            2   1   4  12C                         DETECTOR                                               1.861.804.00
                            4   1  11   9B                         RUN PROCESSOR                                          1.861.860.00
                            4   1  18   10                         CONNECTOR 3      (BACKPANEL RACK 3)
                            4   1  52   10                         BOX-RACK 3 CONNECTOR        (CABLE)
-------------  -----  --  ---------------  -  --  ---------------  ------------------------------------------  ---------  --------------
DTRI4                       1  73   3    9                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)                    1.861.583.00
                            2   1   1    9                         REARPANEL TO (BOX)     (D-SUB 25P)                     1.861.895.00
                            2   1   4  13C                         DETECTOR                                               1.861.804.00
                            4   1  11  10B                         RUN PROCESSOR                                          1.861.860.00
                            4   1  18    9                         CONNECTOR 3      (BACKPANEL RACK 3)
                            4   1  52    9                         BOX-RACK 3 CONNECTOR        (CABLE)
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*****************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L     W I R E     L I S T                       *  86/12/08  *  10:54  *   P A G E 142   *
*****************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                        *
*****************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  --------------
DTR15                      1  73   3   8                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1   8                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 17C                         DETECTOR                                        1.861.804.00
                           4   1  11 11B                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18   8                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52   8                         BOX-RACK 3 CONNECTOR        (CABLE)
------------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  --------------
DTR16                      1  73   3   7                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1   7                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 18C                         DETECTOR                                        1.861.804.00
                           4   1  11 12B                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18   7                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52   7                         BOX-RACK 3 CONNECTOR        (CABLE)
------------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  --------------
DTR17                      1  73   3   6                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1   6                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 19C                         DETECTOR                                        1.861.804.00
                           4   1  11 13B                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18   6                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52   6                         BOX-RACK 3 CONNECTOR        (CABLE)
------------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  --------------
DTR18                      1  73   3   5                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1   5                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 20C                         DETECTOR                                        1.861.804.00
                           4   1  11 14B                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18   5                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52   5                         BOX-RACK 3 CONNECTOR        (CABLE)
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DTR1                       1  73   3  25                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1  25                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 10A                         DETECTOR                                        1.861.804.00
                           4   1  11  7A                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18  25                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52  25                         BOX-RACK 3 CONNECTOR        (CABLE)
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DTR2                       1  73   3  24                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1  24                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 11A                         DETECTOR                                        1.861.804.00
                           4   1  11  8A                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18  24                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52  24                         BOX-RACK 3 CONNECTOR        (CABLE)
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DTR3                       1  73   3  23                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1  23                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 12A                         DETECTOR                                        1.861.804.00
                           4   1  11  9A                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18  23                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52  23                         BOX-RACK 3 CONNECTOR        (CABLE)
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DTR4                       1  73   3  22                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1  22                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 13A                         DETECTOR                                        1.861.804.00
                           4   1  11 10A                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18  22                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52  22                         BOX-RACK 3 CONNECTOR        (CABLE)
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*****************************************************************************************************************************
*   WILLI STUDER AG   *    S I G N A L     W I R E     L I S T                       *  86/12/08  *  10:54  *   P A G E 143   *
*****************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                         *  86/08/27 - 00                        *
*****************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
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DTR5                       1  73   3  21                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1  21                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 17A                         DETECTOR                                        1.861.804.00
                           4   1  11 11A                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18  21                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52  21                         BOX-RACK 3 CONNECTOR        (CABLE)
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DTR6                       1  73   3  20                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1  20                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 18A                         DETECTOR                                        1.861.804.00
                           4   1  11 12A                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18  20                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52  20                         BOX-RACK 3 CONNECTOR        (CABLE)
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DTR7                       1  73   3  19                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1  19                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 19A                         DETECTOR                                        1.861.804.00
                           4   1  11 13A                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18  19                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52  19                         BOX-RACK 3 CONNECTOR        (CABLE)
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DTR8                       1  73   3  18                         BOX-RACK 3 (CAGE)    (25 PIN D-SUB)             1.861.583.00
                           2   1   1  18                         REARPANEL TO (BOX)      (D-SUB 25P)             1.861.895.00
                           2   1   4 20A                         DETECTOR                                        1.861.804.00
                           4   1  11 14A                         RUN PROCESSOR                                   1.861.860.00
                           4   1  18  18                         CONNECTOR 3      (BACKPANEL RACK 3)
                           4   1  52  18                         BOX-RACK 3 CONNECTOR        (CABLE)
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D0                         1  80   6 23C                         ANALOG ROUTING                                  1.861.814.00
                           1  80   7 23A                         PDM CONTROL                                     1.861.813.00
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D1                         1  80   6 23A                         ANALOG ROUTING                                  1.861.814.00
                           1  80   7 23C                         PDM CONTROL                                     1.861.813.00
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D2                         1  80   6 24C                         ANALOG ROUTING                                  1.861.814.00
                           1  80   7 24A                         PDM CONTROL                                     1.861.813.00
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D3                         1  80   6 24A                         ANALOG ROUTING                                  1.861.814.00
                           1  80   7 24C                         PDM CONTROL                                     1.861.813.00
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D4                         1  80   6 25C                         ANALOG ROUTING                                  1.861.814.00
                           1  80   7 25A                         PDM CONTROL                                     1.861.813.00
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D5                         1  80   6 25A                         ANALOG ROUTING                                  1.861.814.00
                           1  80   7 25C                         PDM CONTROL                                     1.861.813.00
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D6                         1  80   6 26C                         ANALOG ROUTING                                  1.861.814.00
                           1  80   7 26A                         PDM CONTROL                                     1.861.813.00
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D7                         1  80   6 26A                         ANALOG ROUTING                                  1.861.814.00
                           1  80   7 26C                         PDM CONTROL                                     1.861.813.00
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EEPDM                      1  80   3  7A                         PDM DEMODULATOR 1                               1.861.812.00
                           1  80   4  7A                         PDM DEMODULATOR 2                               1.861.812.00
                           1  80   7 17C                         PDM CONTROL                                     1.861.813.00
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*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T        *  86/12/08  *  10:54  *   P A G E 144   *
*           1.861.022.00  D820X PCM RECORDER                        *  86/08/27 - 00                        *
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SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
EMPH			1	80	2	19C				PDM MODULATOR		1.861.811.00
			1	80	7	17A				PDM CONTROL		1.861.813.00
FAD1			11	25	3	11			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	4	21				TO CONN. PARALLEL REMOTE CONTR. P04		
FAD2			11	25	3	12			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	4	23				TO CONN. PARALLEL REMOTE CONTR. P04		
FANOUT			4	1	23	12C				POWER SUPPLY		1.861.515.00
FBIWS			4	1	10	16C				TRANSFORMATTER		1.861.859.00
FBWS			4	1	10	16A				TRANSFORMATTER		1.861.859.00
FLEM			4	1	1	9B				ANALOG OUTPUT		1.861.751.00
			4	1	2	4C				ANALOG INPUT		1.861.752.00
			4	1	4	29A				GAINS CONTROL		1.861.853.00
FRMGND			11	20	31	1				TO GRP25, ELM04/05 P21		
			11	20	31	8				TO GRP25, ELM04/05 P21		
			11	20	50	1				SMPTE/EBU INTERFACE J11		1.820.751.00
			11	20	50	8				SMPTE/EBU INTERFACE J11		1.820.751.00
			11	25	4	1			B	CONNECTOR SMPTE/EBU BUS J04		
			11	25	4	9			B	CONNECTOR SMPTE/EBU BUS J04		
			11	25	5	1			B	CONNECTOR SMPTE/EBU BUS J05		
			11	25	5	9			B	CONNECTOR SMPTE/EBU BUS J05		
F1			4	1	10	14C				TRANSFORMATTER		1.861.859.00
F2			4	1	10	15A				TRANSFORMATTER		1.861.859.00
F3			4	1	10	15B				TRANSFORMATTER		1.861.859.00
GND	5-4		11	1	1	3			J	POWER CONNECTOR P01		
	5-4		11	2	1	1			J	EARTH CONTACT		
	4		11	2	2	1			J	EARTH CONTACT		
			11	2	3	1				EARTH CONTACT		1.010.001.53
	4		11	4	1	11			Y	LINE FILTER		
			11	20	30	1				SSDA INT. SYNCHRONIZER P20		
			11	20	30	8				SSDA INT. SYNCHRONIZER P20		
			11	27	5	1			Y	P05		
	0		11	38	5	1			L	GROUND CONNECTION (WIRE FIELD)		
GNDCKI			4	1	13	7B				TIMING + TEST		1.861.862.00
			4	1	19	9				CONNECTOR 4 (TC+AES+BNC)		
			4	3	14	2				CLOCK INPUT (BNC)		
			4	3	15	2				VIDEO CLOCK INPUT (BNC)		
			4	3	26	3				BNC INTERCONNECTION (CIS)		1.861.776.00
GNDCKO			4	1	13	8B				TIMING + TEST		1.861.862.00
			4	1	19	11				CONNECTOR 4 (TC+AES+BNC)		
			4	3	13	2				CLOCK OUTPUT (BNC)		
			4	3	26	5				BNC INTERCONNECTION (CIS)		1.861.776.00

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*   WILLI STUDER AG   *    S I G N A L    W I R E    L I S T        *  86/12/08  *  10:54  *   P A G E 145   *
*           1.861.022.00  D820X PCM RECORDER                        *  86/08/27 - 00                        *
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SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
GNDDAC1			1	73	1	14				BOX-RACK 1 (RACK) (25 PIN D-SUB)		1.861.583.00
			1	80	6	2C				ANALOG ROUTING		1.861.814.00
			1	80	14	14				BOX-RACK 1 TO REAR PANEL TD		
			4	1	1	14A				ANALOG OUTPUT		1.861.751.00
			4	1	17	14				CONNECTOR 2 (BACKPANEL RACK 1)		
			4	1	50	14				BOX-RACK 1 CONNECTOR (CABLE)		
GNDDAC2			1	73	1	15				BOX-RACK 1 (RACK) (25 PIN D-SUB)		1.861.583.00
			1	80	6	3C				ANALOG ROUTING		1.861.814.00
			1	80	14	15				BOX-RACK 1 TO REAR PANEL TD		
			4	1	1	18C				ANALOG OUTPUT		1.861.751.00
			4	1	17	15				CONNECTOR 2 (BACKPANEL RACK 1)		
			4	1	50	15				BOX-RACK 1 CONNECTOR (CABLE)		
GNDIN-1			4	1	2	15B				ANALOG INPUT		1.861.752.00
			4	1	16	12				CONNECTOR 1 (ANALOG I/O)		1.861.775.00
			4	2	4	1				CHANNEL 1 INPUT (XLR)		1.861.775.00
			4	2	21	2				CHANNEL 1 I/O (CABLE) (CIS)		
GNDIN-2			4	1	2	17B				ANALOG INPUT		1.861.752.00
			4	1	16	10				CONNECTOR 1 (ANALOG I/O)		1.861.775.00
			4	2	2	1				CHANNEL 2 INPUT (XLR)		1.861.775.00
			4	2	22	2				CHANNEL 2 I/O (CABLE) (CIS)		
GNDOUT-1			4	1	1	15B				ANALOG OUTPUT		1.861.751.00
			4	1	16	4				CONNECTOR 1 (ANALOG I/O)		1.861.775.00
			4	2	3	1				CHANNEL 1 OUTPUT (XLR)		1.861.775.00
			4	2	21	5				CHANNEL 1 I/O (CABLE) (CIS)		
GNDOUT-2			4	1	1	17B				ANALOG OUTPUT		1.861.751.00
			4	1	16	2				CONNECTOR 1 (ANALOG I/O)		1.861.775.00
			4	2	1	1				CHANNEL 2 OUTPUT (XLR)		1.861.775.00
			4	2	22	5				CHANNEL 2 I/O (CABLE) (CIS)		
GNDTCIN			4	1	19	7				CONNECTOR 4 (TC+AES+BNC)		
			4	3	8	1				TC INPUT (XLR)		
			4	3	10	2				TIME CODE I/O BOARD (CIS)		
			4	3	24	2				TC TRANSFORMATOR (CIS)		1.861.771.00
GNDTCOUT			4	1	19	5				CONNECTOR 4 (TC+AES+BNC)		
			4	3	7	1				TC OUTPUT (XLR)		
			4	3	10	5				TIME CODE I/O BOARD (CIS)		
			4	3	24	5				TC TRANSFORMATOR (CIS)		1.861.771.00
GROUND			4	3	9	1				RT OUTPUT (XLR)		
			4	3	25	1				REFERENCE TIME I/O (CIS)		
			4	3	25	5				REFERENCE TIME I/O (CIS)		
HDTR1			2	3	1	9				HEADBLOCK READ (P4) (D-SUB 25P)		1.861.801.00
			5	3	1	9				HEAD-AMPLIFIER CONNECTOR (D-SUB 25)		1.861.805.00
HDTR10			2	3	1	7				HEADBLOCK READ (P4) (D-SUB 25P)		1.861.801.00
			5	3	1	7				HEAD-AMPLIFIER CONNECTOR (D-SUB 25)		1.861.805.00
HDTR11			2	3	1	10				HEADBLOCK READ (P4) (D-SUB 25P)		1.861.801.00
			5	3	1	10				HEAD-AMPLIFIER CONNECTOR (D-SUB 25)		1.861.805.00

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***************************************************************************************************************************************
*     WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                      *  86/12/08  *  10:54  *   P A G E 146          *
***************************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                        *  86/08/27 - 00                                 *
***************************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                      REMARK      ELEMENT NR.
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HDTR12                     2   3   1  11                           HEADBLOCK READ (P4)      (D-SUB 25P)                    1.861.801.00
                           5   3   1  11                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
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HDTR2                      2   3   1  12                           HEADBLOCK READ (P4)      (D-SUB 25P)                    1.861.801.00
                           5   3   1  12                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
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HDTR3                      2   3   1   4                           HEADBLOCK READ (P4)      (D-SUB 25P)                    1.861.801.00
                           5   3   1   4                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
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HDTR4                      2   3   1   5                           HEADBLOCK READ (P4)      (D-SUB 25P)                    1.861.801.00
                           5   3   1   5                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
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HDTR5                      2   3   1   1                           HEADBLOCK READ (P4)      (D-SUB 25P)                    1.861.801.00
                           5   3   1   1                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
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HDTR6                      2   3   1   8                           HEADBLOCK READ (P4)      (D-SUB 25P)                    1.861.801.00
                           5   3   1   8                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
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HDTR7                      2   3   1   3                           HEADBLOCK READ (P4)      (D-SUB 25P)                    1.861.801.00
                           5   3   1   3                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
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HDTR8                      2   3   1   6                           HEADBLOCK READ (P4)      (D-SUB 25P)                    1.861.801.00
                           5   3   1   6                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
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HDTR9                      2   3   1   2                           HEADBLOCK READ (P4)      (D-SUB 25P)                    1.861.801.00
                           5   3   1   2                           HEAD-AMPLIFIER CONNECTOR (D-SUB 25)                     1.861.805.00
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HI/LO                      4   1  10 19A                           TRANSFORMATTER                                          1.861.859.00
                           4   1  13 20A                           TIMING + TEST                                           1.861.862.00
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HISPD                      1  80   3 22C                           PDM DEMODULATOR 1                                       1.861.812.00
                           1  80   4 22C                           PDM DEMODULATOR 2                                       1.861.812.00
                           1  80   7 22A                           PDM CONTROL                                             1.861.813.00
                           2   1   4 30B                           DETECTOR                                                1.861.804.00
                           2   1   7 30B                           PLAYBACK AMPLIFIER                                      1.861.801.00
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IAN/PDM                    1  80   3 22A                           PDM DEMODULATOR 1                                       1.861.812.00
                           1  80   4 22A                           PDM DEMODULATOR 2                                       1.861.812.00
                           1  80   7 22C                           PDM CONTROL                                             1.861.813.00
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ICARRY                     4   1   4 23A                           GAINS CONTROL                                           1.861.853.00
                           4   1   5 23A                           DAPRO INTERFACE                                         1.861.854.00
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ICLK5                      4   1  10 26B                           TRANSFORMATTER                                          1.861.859.00
                           4   1  13 26B                           TIMING + TEST                                           1.861.862.00
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ICLK6                      4   1  10 26C                           TRANSFORMATTER                                          1.861.859.00
                           4   1  12 26C                           RT/TC CODEC                                             1.861.861.00
                           4   1  13 26C                           TIMING + TEST                                           1.861.862.00
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ICOUT1WR                   1  80   6 30A                           ANALOG ROUTING                                          1.861.814.00
                           1  80   7 30C                           PDM CONTROL                                             1.861.813.00
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ICOUT2WR                   1  80   6 30C                           ANALOG ROUTING                                          1.861.814.00
                           1  80   7 30A                           PDM CONTROL                                             1.861.813.00
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***************************************************************************************************************************************
*     WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                      *  86/12/08  *  10:54  *   P A G E 147          *
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*            1.861.022.00  D820X PCM RECORDER                                        *  86/08/27 - 00                                 *
***************************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                      REMARK      ELEMENT NR.
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IERRL                      4   1  10  4B                           TRANSFORMATTER                                          1.861.859.00
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IMASSA                     2   1   4 30A                           DETECTOR                                                1.861.804.00
                           2   1   5 30C                           WRITE AMPLIFIER                                         1.861.803.00
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IMON/STE                   1  80   1 31A                           CUE/PQ DELAY                                            1.861.816.00
                           1  80   2 31A                           PDM MODULATOR                                           1.861.811.00
                           1  80   3 31A                           PDM DEMODULATOR 1                                       1.861.812.00
                           1  80   4 31A                           PDM DEMODULATOR 2                                       1.861.812.00
                           1  80   7 31C                           PDM CONTROL                                             1.861.813.00
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IR-REFEX                  11  25   2  13         8                 CONNECTOR SYNCHRONIZER             J02
                          11  25   3  13         8                 CONN. PARALLEL REMOTE CONTROL      J03
                          11  27   3  25                           TO CONNECTOR SYNCHRONIZER          P03
                          11  27   4  25                           TO CONN. PARALLEL REMOTE CONTR.    P04
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IRECD1                     2   1   4 28A                           DETECTOR                                                1.861.804.00
                           2   1   5 28C                           WRITE AMPLIFIER                                         1.861.803.00
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IRECD2                     2   1   4 28C                           DETECTOR                                                1.861.804.00
                           2   1   5 28A                           WRITE AMPLIFIER                                         1.861.803.00
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IREC1                      2   1   4 27A                           DETECTOR                                                1.861.804.00
                           2   1   5 27C                           WRITE AMPLIFIER                                         1.861.803.00
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IREC11                     2   1   4 29A                           DETECTOR                                                1.861.804.00
                           2   1   5 29C                           WRITE AMPLIFIER                                         1.861.803.00
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IREC12                     2   1   4 29C                           DETECTOR                                                1.861.804.00
                           2   1   5 29A                           WRITE AMPLIFIER                                         1.861.803.00
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IREC2                      2   1   4 27C                           DETECTOR                                                1.861.804.00
                           2   1   5 27A                           WRITE AMPLIFIER                                         1.861.803.00
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ISPLDET                    4   1   8 22C                           CODEC CONTROL                                           1.861.857.00
                           4   1   9 17A                           CODEC MEMORY                                            1.861.858.00
                           4   1  10 22C                           TRANSFORMATTER                                          1.861.859.00
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ISYNC                      4   1  10 20B                           TRANSFORMATTER                                          1.861.859.00
                           4   1  11 20B                           RUN PROCESSOR                                           1.861.860.00
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ISYRT                      4   1  10  9C                           TRANSFORMATTER                                          1.861.859.00
                           4   1  12  9C                           RT/TC CODEC                                             1.861.861.00
------------  -----  --  ---------------  -  --  ----------------  ------------------------------------------  ----------  ------------
ITDSMUTE                   2   1   4 31C                           DETECTOR                                                1.861.804.00
                           2   1   6 31A                           TAPE DECK MONITOR                                       1.861.802.00
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ITEST                      4   1  10  4A                           TRANSFORMATTER                                          1.861.859.00
------------  -----  --  ---------------  -  --  ----------------  ------------------------------------------  ----------  ------------
ITE2                       4   1  13 23A                           TIMING + TEST                                           1.861.862.00
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ITRAR                      4   1  10 15C                           TRANSFORMATTER                                          1.861.859.00
------------  -----  --  ---------------  -  --  ----------------  ------------------------------------------  ----------  ------------
IWRET                      4   1  10 20C                           TRANSFORMATTER                                          1.861.859.00
                           4   1  11 20C                           RUN PROCESSOR                                           1.861.860.00
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********************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L     W I R E     L I S T                  *  86/12/08  *  10:54  *   P A G E 148   *
********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                   *  86/08/27 - 00                             *
********************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                 REMARK      ELEMENT NR.
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT1                   2   2   1    2                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1    2                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT10                  2   2   1   20                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1   20                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT11                  2   2   1   24                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1   24                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT12                  2   2   1   26                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1   26                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT2                   2   2   1    4                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1    4                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT3                   2   2   1    6                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1    6                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT4                   2   2   1    8                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1    8                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT5                   2   2   1   10                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1   10                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT6                   2   2   1   12                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1   12                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT7                   2   2   1   14                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1   14                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT8                   2   2   1   16                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1   16                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
IWROUT9                   2   2   1   18                         HEADBLOCK WRITE (P4)    (D-SUB 25P)                1.861.803.00
                          5   2   1   18                         HEADBLOCK CONNECTOR WRITE       (P4)               1.116.861.10
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
I2ECCLK                   4   1   5  26A                         DAPRO INTERFACE                                    1.861.854.00
                          4   1  13  17B                         TIMING + TEST                                      1.861.862.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
K-BRAKEL                 11  20  43  31A                         TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
             1           11  20  63    1          U              WIRE FIELD (TO BRAKE SOLENOIDS)
             1           11  20  72    2          F              TO BRAKE SOLENOID. LEFT
             1           11  40   1    2          M              BRAKE SOLENOID
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
K-BRAKER                 11  20  43  32A                         TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
             4           11  20  63    2          U              WIRE FIELD (TO BRAKE SOLENOIDS)
             4           11  20  73    2          F              TO BRAKE SOLENOID. RIGHT
             4           11  41   1    2          M              BRAKE SOLENOID
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
K-PWRUP                   1  73   1   25                         BOX-RACK 1 (RACK)      (25 PIN D-SUB)              1.861.583.00
                          1  79   4   24                         POWER CONNECTOR RACK (25 PIN D-SUB)
                          1  80  13   24                         RACK PWR CONNECTOR   (25 PIN D-SUB)
                          1  80  14   25                         BOX-RACK 1 TO REAR PANEL TO
                          4   1  14  25B                         SYSTEM CONTROLLER 1                                1.861.763.00
                          4   1  15  25B                         SYSTEM CONTROLLER 2                                1.861.763.00
                                                                                                                             ./.
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********************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L     W I R E     L I S T                  *  86/12/08  *  10:54  *   P A G E 149   *
********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                   *  86/08/27 - 00                             *
********************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                 REMARK      ELEMENT NR.
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
<<-- CONT.OF              4   1  17   25                         CONNECTOR 2        (BACKPANEL RACK 1)
K-PWRUP                   4   1  23  10A                         POWER SUPPLY                                       1.861.515.00
                          4   1  50   25                         BOX-RACK 1 CONNECTOR           (CABLE)
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
KEY/CDIR                 11  25   2    8          B              CONNECTOR SYNCHRONIZER            J02
                         11  27   3   15                         TO CONNECTOR SYNCHRONIZER         P03
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
KINTAP                    3   3   6   18                         DATA MP KEYBOARD      (FLATCABLE 26P)              1.861.746.00
                          3   8   1   18                         DATA MP AMPLIF (FLATCAB. SOLD. 26P)                1.861.745.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
KMCCH1                    3   3   6   20                         DATA MP KEYBOARD      (FLATCABLE 26P)              1.861.746.00
                          3   8   1   20                         DATA MP AMPLIF (FLATCAB. SOLD. 26P)                1.861.745.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
KMCCH2                    3   3   6   22                         DATA MP KEYBOARD      (FLATCABLE 26P)              1.861.746.00
                          3   8   1   22                         DATA MP AMPLIF (FLATCAB. SOLD. 26P)                1.861.745.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
KMCTC                     3   3   6   26                         DATA MP KEYBOARD      (FLATCABLE 26P)              1.861.746.00
                          3   8   1   26                         DATA MP AMPLIF (FLATCAB. SOLD. 26P)                1.861.745.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
KMCUE1                    3   3   1   19                         CBUS REARPANEL RACK   (D-SUB 25P M)                1.861.744.00
                          3   3   6   19                         DATA MP KEYBOARD      (FLATCABLE 26P)              1.861.746.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
KMCUE2                    3   3   6   17                         DATA MP KEYBOARD      (FLATCABLE 26P)              1.861.746.00
                          3   8   1   17                         DATA MP AMPLIF (FLATCAB. SOLD. 26P)                1.861.745.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBIT0                     3   2   3   15                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   15                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBIT1                     3   2   3   16                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   16                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBIT2                     3   2   3   17                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   17                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBIT3                     3   2   3   18                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   18                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBIT4                     3   2   3   19                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   19                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBIT5                     3   2   3   20                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   20                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBIT6                     3   2   3   21                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   21                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBIT7                     3   2   3   22                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   22                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBY0                      3   2   3   26                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   26                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
-----------  -----  --  ---------------  -  --  ---------------  -------------------------------------  ----------  ---------------
LBY1                      3   2   3   25                         DATA CCP KEYBOARD        (FLTCAB. 26P)             1.861.744.00
                          3  10   1   25                         DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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**************************************************************************************************************************
*    WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T              *  86/12/08  *  10:54  *   P A G E 150   *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                            *  86/08/27 - 00                        *
**************************************************************************************************************************

SIGNAL NAME   COLOR  MI   ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
LBY2                       3   2   3  24                            DATA CCP KEYBOARD      (FLTCAB. 26P)                1.861.744.00
                           3  10   1  24                            DATA CCP TRANSCEIV. (FLATCABLE 26P)                 1.861.743.00
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
LINE1         1           11   1   1   1          J                 POWER CONNECTOR                   P01
              1           11   3   1   1          J                 POWER SWITCH
              1           11   4   1   4          Y                 LINE FILTER
              1           11   4   1   5          Y                 LINE FILTER
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
LINE2         6           11   1   1   2          J                 POWER CONNECTOR                   P01
              6           11   3   1   2          J                 POWER SWITCH
              6           11   4   1  14          Y                 LINE FILTER
              6           11   4   1  15          Y                 LINE FILTER
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
LCTREND                    4   1  11 19C                            RUN PROCESSOR                                       1.861.860.00
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MCPRES                     3   3   6  15                            DATA MP KEYBOARD     (FLATCABLE 26P)                1.861.746.00
                           3   8   1  15                            DATA MP AMPLIF (FLATCAB. SOLD. 26P)                 1.861.745.00
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MONGND                     1  79   3  25                            CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   4  25                            POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  80   6 18A                            ANALOG ROUTING                                      1.861.814.00
                           1  80  13  25                            RACK PWR CONNECTOR    (25 PIN D-SUB)
              4            1  80  19  25                            RACK-MONITOR PANEL      (D-SUB CRIMP)
                           2   1   2  25                            POWER DELTA MOLEX (P2)  (D-SUB 25P)                 1.861.895.00
                           2   1   6 18C                            TAPE DECK MONITOR                                   1.861.802.00
                           3   3   1  25                            CBUS REARPANEL RACK    (D-SUB 25P M)                1.861.744.00
                           3   3   5   3                            TO TANDEM POT              (CIS 6P) J1              1.912.001.30
                           3   7   1   3                            TANDEM POT SOLD.                                    1.912.001.30
                           3   7   1   6                            TANDEM POT SOLD.                                    1.912.001.30
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MONTR1                     1  79   3  12                            CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   4  12                            POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  80   6 17C                            ANALOG ROUTING                                      1.861.814.00
                           1  80  13  12                            RACK PWR CONNECTOR    (25 PIN D-SUB)
              9            1  80  19  12                            RACK-MONITOR PANEL      (D-SUB CRIMP)
                           2   1   2  12                            POWER DELTA MOLEX (P2)  (D-SUB 25P)                 1.861.895.00
                           2   1   6 18A                            TAPE DECK MONITOR                                   1.861.802.00
                           3   3   1  13                            CBUS REARPANEL RACK    (D-SUB 25P M)                1.861.744.00
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MONTR2                     1  79   3  13                            CAGE PWR CONNECTOR    (25 PIN D-SUB)
                           1  79   4  13                            POWER CONNECTOR RACK (25 PIN D-SUB)
                           1  80   6 18C                            ANALOG ROUTING                                      1.861.814.00
                           1  80  13  13                            RACK PWR CONNECTOR    (25 PIN D-SUB)
              6            1  80  19  13                            RACK-MONITOR PANEL      (D-SUB CRIMP)
                           2   1   2  13                            POWER DELTA MOLEX (P2)  (D-SUB 25P)                 1.861.895.00
                           2   1   6 19A                            TAPE DECK MONITOR                                   1.861.802.00
                           3   3   1  12                            CBUS REARPANEL RACK    (D-SUB 25P M)                1.861.744.00
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MON1                       2   1   4 24C                            DETECTOR                                            1.861.804.00
                           2   1   6 24A                            TAPE DECK MONITOR                                   1.861.802.00
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MON2                       2   1   4 25A                            DETECTOR                                            1.861.804.00
                           2   1   6 25C                            TAPE DECK MONITOR                                   1.861.802.00
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MON3                       2   1   4 25C                            DETECTOR                                            1.861.804.00
                           2   1   6 25A                            TAPE DECK MONITOR                                   1.861.802.00
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**************************************************************************************************************************
*    WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T              *  86/12/08  *  10:54  *   P A G E 151   *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                            *  86/08/27 - 00                        *
**************************************************************************************************************************

SIGNAL NAME   COLOR  MI   ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MON4                       2   1   4 26A                            DETECTOR                                            1.861.804.00
                           2   1   6 26C                            TAPE DECK MONITOR                                   1.861.802.00
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MON5                       2   1   4 26C                            DETECTOR                                            1.861.804.00
                           2   1   6 26A                            TAPE DECK MONITOR                                   1.861.802.00
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MPSMUTE                    1  80   7 20A                            PDM CONTROL                                         1.861.813.00
              4            1  80  19   4                            RACK-MONITOR PANEL      (D-SUB CRIMP)
                           3   3   1   4                            CBUS REARPANEL RACK    (D-SUB 25P M)                1.861.744.00
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MPSPL1        2            3   3   3   3                            AUDIO SPEAKER LEFT         (CIS 5P) J4              1.861.746.00
              2            3   5   1   1                            SPEAKER LEFT                                          71.01.0108
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MPSPL2        0            3   3   3   4                            AUDIO SPEAKER LEFT         (CIS 5P) J4              1.861.746.00
              0            3   5   1   2                            SPEAKER LEFT                                          71.01.0108
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MPSPR1        2            3   3   2   3                            AUDIO SPEAKER RIGHT        (CIS 3P) J3              1.861.746.00
              2            3   4   1   1                            SPEAKER RIGHT                                         71.01.0108
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
MPSPR2        0            3   3   2   2                            AUDIO SPEAKER RIGHT        (CIS 3P) J3              1.861.746.00
              0            3   4   1   2                            SPEAKER RIGHT                                         71.01.0108
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MVARI                      4   1  11 23B                            RUN PROCESSOR                                       1.861.860.00
                           4   1  12 23B                            RT/TC CODEC                                         1.861.861.00
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OC-RES1                   11  20  43 27A                            TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
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OC-RES2                   11  20  43 28A                            TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
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OC-RES3                   11  20  43 29A                            TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
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OC-RES4                   11  20  43 30A                            TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
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OR-CMCLK                  11  25   2  11          B                 CONNECTOR SYNCHRONIZER            J02
                          11  27   3  21                            TO CONNECTOR SYNCHRONIZER         P03
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
OR-MVCLK                  11  25   2   7          B                 CONNECTOR SYNCHRONIZER            J02
                          11  27   3  13                            TO CONNECTOR SYNCHRONIZER         P03
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
OR-MVDIR                  11  25   2  10          B                 CONNECTOR SYNCHRONIZER            J02
                          11  27   3  19                            TO CONNECTOR SYNCHRONIZER         P03
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
OR-SYENB                  11  25   2  12          B                 CONNECTOR SYNCHRONIZER            J02
                          11  27   3  23                            TO CONNECTOR SYNCHRONIZER         P03
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
P-ADDR00                   4   1  14 20A                            SYSTEM CONTROLLER 1                                 1.861.763.00
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P-ADDR01                   4   1  14 20B                            SYSTEM CONTROLLER 1                                 1.861.763.00
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P-ADDR02                   4   1  14 20C                            SYSTEM CONTROLLER 1                                 1.861.763.00
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P-ADDR03                   4   1  14 21A                            SYSTEM CONTROLLER 1                                 1.861.763.00
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
P-ADDR04                   4   1  14 21B                            SYSTEM CONTROLLER 1                                 1.861.763.00
-----------   -----  --   ---------------  -  --  ---------------   -------------------------------------   --------   -------------
P-ADDR05                   4   1  14 21C                            SYSTEM CONTROLLER 1                                 1.861.763.00
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*****************************************************************************************************************
*   WILLI STUDER AG   *     S  I  G  N  A  L     W  I  R  E     L  I  S  T      *  86/12/08  *  10:54  *   P A G E 152   *
*****************************************************************************************************************
*          1.861.022.00  D820X PCM RECCRDER                                      *  86/08/27 - 00                 *
*****************************************************************************************************************

SIGNAL NAME   COLOR  MI   ASY GRP ELM PNT   S  LV   TYPE             DESCRIPTION OF ELEMENT               REMARK      ELEMENT NR.
-----------   -----  --   ---------------   -  --   --------------   ---------------------------------   --------   ------------
P-ADDR06                   4   1  14  22A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-ADDR07                   4   1  14  22B                            SYSTEM CONTROLLER 1                             1.861.763.00
P-ADDR08                   4   1  14  22C                            SYSTEM CCNTRCLLER 1                             1.861.763.00
P-ADDR09                   4   1  14  23A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-ADDR10                   4   1  14  23B                            SYSTEM CONTROLLER 1                             1.861.763.00
P-ADDR11                   4   1  14  23C                            SYSTEM CONTROLLER 1                             1.861.763.00
P-ADDR20                   4   1  15  20A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ADDR21                   4   1  15  20B                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ADDR22                   4   1  15  20C                            SYSTEM CONTRCLLER 2                             1.861.763.00
P-ADDR23                   4   1  15  21A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ADDR24                   4   1  15  21B                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ADDR25                   4   1  15  21C                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ADDR26                   4   1  15  22A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ADDR27                   4   1  15  22B                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ADDR28                   4   1  15  22C                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ADDR29                   4   1  15  23A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ADDR30                   4   1  15  23B                            SYSTEM CCNTROLLER 2                             1.861.763.00
P-ADDR31                   4   1  15  23C                            SYSTEM CCNTROLLER 2                             1.861.763.00
P-DATA0                    4   1  14  12A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-DATA02                   4   1  15  12A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-DATA1                    4   1  14  12B                            SYSTEM CONTROLLER 1                             1.861.763.00
P-DATA12                   4   1  15  12B                            SYSTEM CCNTROLLER 2                             1.861.763.00
P-DATA2                    4   1  14  12C                            SYSTEM CCNTROLLER 1                             1.861.763.00
P-DATA22                   4   1  15  12C                            SYSTEM CONTROLLER 2                             1.861.763.00
P-DATA3                    4   1  14  13A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-DATA32                   4   1  15  13A                            SYSTEM CCNTROLLER 2                             1.861.763.00
P-DATA4                    4   1  14  13B                            SYSTEM CONTROLLER 1                             1.861.763.00
P-DATA42                   4   1  15  13B                            SYSTEM CONTROLLER 2                             1.861.763.00
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*****************************************************************************************************************
*   WILLI STUDER AG   *     S  I  G  N  A  L     W  I  R  E     L  I  S  T      *  86/12/08  *  10:54  *   P A G E 153   *
*****************************************************************************************************************
*          1.861.022.00  D820X PCM RECCRDER                                      *  86/08/27 - 00                 *
*****************************************************************************************************************

SIGNAL NAME   COLOR  MI   ASY GRP ELM PNT   S  LV   TYPE             DESCRIPTION OF ELEMENT               REMARK      ELEMENT NR.
-----------   -----  --   ---------------   -  --   --------------   ---------------------------------   --------   ------------
P-DATA5                    4   1  14  13C                            SYSTEM CONTROLLER 1                             1.861.763.00
P-DATA52                   4   1  15  13C                            SYSTEM CONTROLLER 2                             1.861.763.00
P-DATA6                    4   1  14  14A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-DATA62                   4   1  15  14A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-DATA7                    4   1  14  14B                            SYSTEM CONTROLLER 1                             1.861.763.00
P-DATA72                   4   1  15  14B                            SYSTEM CONTROLLER 2                             1.861.763.00
P-EN                       4   1  14  15A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-EN2                      4   1  15  15A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-INMI                     4   1  14  16A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-INMI2                    4   1  15  16A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-IN2                      4   1  14  16C                            SYSTEM CONTROLLER 1                             1.861.763.00
                           4   1  15  16C                            SYSTEM CONTROLLER 2                             1.861.763.00
P-IRES                     4   1  14  15C                            SYSTEM CONTROLLER 1                             1.861.763.00
P-IRES2                    4   1  15  15C                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ISEL0                    4   1  14  24A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-ISEL02                   4   1  15  24A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ISEL1                    4   1  14  24B                            SYSTEM CONTROLLER 1                             1.861.763.00
P-ISEL12                   4   1  15  24B                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ISEL2                    4   1  14  24C                            SYSTEM CONTROLLER 1                             1.861.763.00
P-ISEL22                   4   1  15  24C                            SYSTEM CONTROLLER 2                             1.861.763.00
P-ISEL3                    4   1  14  25A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-ISEL32                   4   1  15  25A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-OUT1                     4   1  14  17A                            SYSTEM CONTROLLER 1                             1.861.763.00
P-OUT12                    4   1  15  17A                            SYSTEM CONTROLLER 2                             1.861.763.00
P-OUT2                     4   1  14  17B                            SYSTEM CONTROLLER 1                             1.861.763.00
P-OUT22                    4   1  15  17B                            SYSTEM CONTROLLER 2                             1.861.763.00
P-RW                       4   1  14  15B                            SYSTEM CCNTROLLER 1                             1.861.763.00
P-RW2                      4   1  15  15B                            SYSTEM CONTROLLER 2                             1.861.763.00
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********************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                      *  86/12/08  *  10:54  *  P A G E 154  *
********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                     *  86/08/27 - 00                        *
********************************************************************************************************************************

SIGNAL NAME   COLOR  MI ASY GRP ELM PNT S  LV  TYPE             DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBITR1                    1  73   1  10                         BOX-RACK 1 (RACK)    (25 PIN D-SUB)                 1.861.583.00
                          1  80   6  4A                         ANALOG ROUTING                                      1.861.814.00
                          1  80  12  10                         RACK-CAGE            (25 PIN D-SUB)
                          1  80  14  10                         BOX-RACK 1 TO REAR PANEL TD
                          2   1   3  10                         BACKPANEL RACK          (D-SUB 25P)                 1.861.895.00
                          2   1   7 18C                         PLAYBACK AMPLIFIER                                  1.861.801.00
                          4   1  12 10B                         RT/TC CODEC                                         1.861.861.00
                          4   1  17  10                         CONNECTOR 2      (BACKPANEL RACK 1)
                          4   1  50  10                         BOX-RACK 1 CONNECTOR         (CABLE)
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBITR11                   1  80   3  4C                         PDM DEMODULATOR 1                                   1.861.812.00
                          1  80  12  12                         RACK-CAGE            (25 PIN D-SUB)
                          2   1   3  12                         BACKPANEL RACK          (D-SUB 25P)                 1.861.895.00
                          2   1   7 20C                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBITR12                   1  80   3  8C                         PDM DEMODULATOR 1                                   1.861.812.00
                          1  80   4  4C                         PDM DEMODULATOR 2                                   1.861.812.00
                          1  80  12  13                         RACK-CAGE            (25 PIN D-SUB)
                          2   1   3  13                         BACKPANEL RACK          (D-SUB 25P)                 1.861.895.00
                          2   1   7 21C                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBITR2                    1  73   1  11                         BOX-RACK 1 (RACK)    (25 PIN D-SUB)                 1.861.583.00
                          1  80  12  11                         RACK-CAGE            (25 PIN D-SUB)
                          1  80  14  11                         BOX-RACK 1 TO REAR PANEL TD
                          2   1   3  11                         BACKPANEL RACK          (D-SUB 25P)                 1.861.895.00
                          2   1   7 19C                         PLAYBACK AMPLIFIER                                  1.861.801.00
                          4   1  12  8B                         RT/TC CODEC                                         1.861.861.00
                          4   1  17  11                         CONNECTOR 2      (BACKPANEL RACK 1)
                          4   1  50  11                         BOX-RACK 1 CONNECTOR         (CABLE)
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR1                     1  73   1  23                         BOX-RACK 1 (RACK)    (25 PIN D-SUB)                 1.861.583.00
                          1  80  12  22                         RACK-CAGE            (25 PIN D-SUB)
                          1  80  14  23                         BOX-RACK 1 TO REAR PANEL TD
                          2   1   3  22                         BACKPANEL RACK          (D-SUB 25P)                 1.861.895.00
                          2   1   7 18A                         PLAYBACK AMPLIFIER                                  1.861.801.00
                          4   1  12 10A                         RT/TC CODEC                                         1.861.861.00
                          4   1  17  23                         CONNECTOR 2      (BACKPANEL RACK 1)
                          4   1  50  23                         BOX-RACK 1 CONNECTOR         (CABLE)
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR10                    2   1   4  4A                         DETECTOR                                            1.861.804.00
                          2   1   7  4C                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR11                    1  80   3  4A                         PDM DEMODULATOR 1                                   1.861.812.00
                          1  80  12  24                         RACK-CAGE            (25 PIN D-SUB)
                          2   1   3  24                         BACKPANEL RACK          (D-SUB 25P)                 1.861.895.00
                          2   1   7 20A                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR12                    1  80   3  8A                         PDM DEMODULATOR 1                                   1.861.812.00
                          1  80   4  4A                         PDM DEMODULATOR 2                                   1.861.812.00
                          1  80  12  25                         RACK-CAGE            (25 PIN D-SUB)
                          2   1   3  25                         BACKPANEL RACK          (D-SUB 25P)                 1.861.895.00
                          2   1   7 21A                         PLAYBACK AMPLIFIER                                  1.861.801.00
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********************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                      *  86/12/08  *  10:54  *  P A G E 155  *
********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                     *  86/08/27 - 00                        *
********************************************************************************************************************************

SIGNAL NAME   COLOR  MI ASY GRP ELM PNT S  LV  TYPE             DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR2                     1  73   1  24                         BOX-RACK 1 (RACK)    (25 PIN D-SUB)                 1.861.583.00
                          1  80  12  23                         RACK-CAGE            (25 PIN D-SUB)
                          1  80  14  24                         BOX-RACK 1 TO REAR PANEL TD
                          2   1   3  23                         BACKPANEL RACK          (D-SUB 25P)                 1.861.895.00
                          2   1   7 19A                         PLAYBACK AMPLIFIER                                  1.861.801.00
                          4   1  12  8A                         RT/TC CODEC                                         1.861.861.00
                          4   1  17  24                         CONNECTOR 2      (BACKPANEL RACK 1)
                          4   1  50  24                         BOX-RACK 1 CONNECTOR         (CABLE)
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR3                     2   1   4  1C                         DETECTOR                                            1.861.804.00
                          2   1   7  1A                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR4                     2   1   4  1A                         DETECTOR                                            1.861.804.00
                          2   1   7  1C                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR5                     2   1   4  2C                         DETECTOR                                            1.861.804.00
                          2   1   7  2A                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR6                     2   1   4  2A                         DETECTOR                                            1.861.804.00
                          2   1   7  2C                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR7                     2   1   4  3C                         DETECTOR                                            1.861.804.00
                          2   1   7  3A                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR8                     2   1   4  3A                         DETECTOR                                            1.861.804.00
                          2   1   7  3C                         PLAYBACK AMPLIFIER                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PBTR9                     2   1   4  4C                         DETECTOR                                            1.861.804.00
                          2   1   7  4A                         PLAYBACK AMPLIFIFR                                  1.861.801.00
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PDBCLK                    1  73   1  16                         BOX-RACK 1 (RACK)    (25 PIN D-SUB)                 1.861.583.00
                          1  80   1 11A                         CUE/PQ DELAY                                        1.861.816.00
                          1  80  14  16                         BOX-RACK 1 TO REAR PANEL TD
                          4   1   5 21C                         DAPRO INTERFACE                                     1.861.854.00
                          4   1  17  16                         CONNECTOR 2      (BACKPANEL RACK 1)
                          4   1  50  16                         BOX-RACK 1 CONNECTOR         (CABLE)
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PDCLK3                    1  73   1  13                         BOX-RACK 1 (RACK)    (25 PIN D-SUB)                 1.861.583.00
                          1  80   1  2A                         CUE/PQ DELAY                                        1.861.816.00
                          1  80  14  13                         BOX-RACK 1 TO REAR PANEL TD
                          4   1  13 22A                         TIMING + TEST                                       1.861.862.00
                          4   1  17  13                         CONNECTOR 2      (BACKPANEL RACK 1)
                          4   1  50  13                         BOX-RACK 1 CONNECTOR         (CABLE)
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PDDATA                    1  73   1  18                         BOX-RACK 1 (RACK)    (25 PIN D-SUB)                 1.861.583.00
                          1  80   1 13A                         CUE/PQ DELAY                                        1.861.816.00
                          1  80  14  18                         BOX-RACK 1 TO REAR PANEL TD
                          4   1   5 20B                         DAPRO INTERFACE                                     1.861.854.00
                          4   1  17  18                         CONNECTOR 2      (BACKPANEL RACK 1)
                          4   1  50  18                         BOX-RACK 1 CONNECTOR         (CABLE)
------------  -----  -- --------------- -  --  ---------------  ---------------------------------------  ---------  ------------
PDIBCLK                   1  73   1   3                         BOX-RACK 1 (RACK)    (25 PIN D-SUB)                 1.861.583.00
                          1  80   1 11C                         CUE/PQ DELAY                                        1.861.816.00
                          1  80  14   3                         BOX-RACK 1 TO REAR PANEL TD
                          4   1   5 22A                         DAPRO INTERFACE                                     1.861.854.00
                                                                                                                              ./.
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****************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                 *  86/12/08  *  10:54  *  P A G E 156  *
****************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                *  86/08/27 - 00                      *
****************************************************************************************************************
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SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
<<-- CONT.OF			4	1	17	3				CONNECTOR 2 (BACKPANEL RACK 1)		
PCIBCLK			4	1	50	3				BOX-RACK 1 CONNECTOR (CABLE)		
PCICLK3			1	73	1	12				BOX-RACK 1 (RACK) (25 PIN D-SUB)		1.861.583.00
			1	80	1	2C				CUE/PQ DELAY		1.861.816.00
			1	80	14	12				BOX-RACK 1 TO REAR PANEL TD		
			4	1	13	22B				TIMING + TEST		1.861.862.00
			4	1	17	12				CONNECTOR 2 (BACKPANEL RACK 1)		
			4	1	50	12				BOX-RACK 1 CONNECTOR (CABLE)		
PDIDATA			1	73	1	5				BOX-RACK 1 (RACK) (25 PIN D-SUB)		1.861.583.00
			1	80	1	13C				CUE/PQ DELAY		1.861.816.00
			1	80	14	5				BOX-RACK 1 TO REAR PANEL TD		
			4	1	5	20C				DAPRO INTERFACE		1.861.854.00
			4	1	17	5				CONNECTOR 2 (BACKPANEL RACK 1)		
			4	1	50	5				BOX-RACK 1 CONNECTOR (CABLE)		
PCIWCLK			1	73	1	4				BOX-RACK 1 (RACK) (25 PIN D-SUB)		1.861.583.00
			1	80	1	12C				CUE/PQ DELAY		1.861.816.00
			1	80	14	4				BOX-RACK 1 TO REAR PANEL TD		
			4	1	5	21B				DAPRO INTERFACE		1.861.854.00
			4	1	17	4				CONNECTOR 2 (BACKPANEL RACK 1)		
			4	1	50	4				BOX-RACK 1 CONNECTOR (CABLE)		
POWCLK			1	73	1	17				BOX-RACK 1 (RACK) (25 PIN D-SUB)		1.861.583.00
			1	80	1	12A				CUE/PQ DELAY		1.861.816.00
			1	80	14	17				BOX-RACK 1 TO REAR PANEL TD		
			4	1	5	21A				DAPRO INTERFACE		1.861.854.00
			4	1	17	17				CONNECTOR 2 (BACKPANEL RACK 1)		
			4	1	50	17				BOX-RACK 1 CONNECTOR (CABLE)		
PHOCON			2	4	2	2				INTERNAL PHONE CONNECTOR J2 (CIS)		1.861.802.00
			2	6	1	6				INTERNAL PHONE PLUG (SOLD.)		54.240.102.00
PHOGND	4		3	3	4	6				AUDIO PHONES PLUG (CIS 6P) J2		1.861.746.00
	4		3	6	1	6				PHONES PLUG		54.24.0102
PHCL	9		3	3	4	4				AUDIO PHONES PLUG (CIS 6P) J2		1.861.746.00
	9		3	6	1	4				PHONES PLUG		54.24.0102
PHOR	2		3	3	4	5				AUDIO PHONES PLUG (CIS 6P) J2		1.861.746.00
	2		3	6	1	5				PHONES PLUG		54.24.0102
PHOSELA			1	80	6	28A				ANALOG ROUTING		1.861.814.00
			1	80	7	28C				PDM CONTROL		1.861.813.00
PHCSELB			1	80	6	28C				ANALOG ROUTING		1.861.814.00
			1	80	7	28A				PDM CONTROL		1.861.813.00
PHCSW	5		3	3	4	2				AUDIO PHONES PLUG (CIS 6P) J2		1.861.746.00
	5		3	6	1	2				PHONES PLUG		54.24.0102
PRIMV-1	0		11	9	1	1			Y	PRIMARY 1		1.820.521.00
	0		11	9	1	4			Y	PRIMARY 1		1.820.521.00

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****************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                 *  86/12/08  *  10:54  *  P A G E 157  *
****************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                *  86/08/27 - 00                      *
****************************************************************************************************************
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SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
PRIMV-2	1		11	5	1	2			L	FUSE HOLDER. F01		53.03.0106
	1		11	6	1	1A			K	DISTRIBUTOR		
	1		11	6	1	1C			K	DISTRIBUTOR		
	1		11	6	1	1D			K	DISTRIBUTOR		
	1		11	7	1	1			J	VOLTAGE SELECTOR S01		55.12.0001
	1		11	9	1	2			Y	PRIMARY 1		1.820.521.00
PRIMV-3	2		11	6	1	2A			K	DISTRIBUTOR		
	2		11	6	1	2C			K	DISTRIBUTOR		
	2		11	6	1	2D			K	DISTRIBUTOR		
	2		11	7	1	2			J	VOLTAGE SELECTOR S01		55.12.0001
	2		11	7	2	1			J	VOLTAGE SELECTOR S02		55.12.0001
	2		11	9	1	3			Y	PRIMARY 1		1.820.521.00
PRIMV-5	3		11	6	1	3A			K	DISTRIBUTOR		
	3		11	6	1	3C			K	DISTRIBUTOR		
	3		11	6	1	3D			K	DISTRIBUTOR		
	3		11	7	1	3			J	VOLTAGE SELECTOR S01		55.12.0001
	3		11	7	2	3			J	VOLTAGE SELECTOR S02		55.12.0001
	3		11	9	2	5			Y	PRIMARY 2		1.820.522.00
PRIMV-6	0		11	9	2	6			Y	PRIMARY 2		1.820.522.00
	0		11	9	2	7			Y	PRIMARY 2		1.820.522.00
PRIMW-1	0		11	8	1	1			Y	PRIMARY 1		1.820.521.00
	0		11	8	1	4			Y	PRIMARY 1		1.820.521.00
PRIMW-2	1		11	5	2	2			L	FUSE HOLDER. F02		53.03.0106
	5		11	6	1	5A			K	DISTRIBUTOR		
	5		11	6	1	5C			K	DISTRIBUTOR		
	5		11	6	1	5D			K	DISTRIBUTOR		
	5		11	7	3	1			J	VOLTAGE SELECTOR S03		55.12.0001
	5		11	8	1	2			Y	PRIMARY 1		1.820.521.00
PRIMW-3	6		11	6	1	6A			K	DISTRIBUTOR		
	6		11	6	1	6C			K	DISTRIBUTOR		
	6		11	6	1	6D			K	DISTRIBUTOR		
	6		11	7	2	2			J	VOLTAGE SELECTOR S02		55.12.0001
	6		11	7	3	2			J	VOLTAGE SELECTOR S03		55.12.0001
	6		11	8	1	3			Y	PRIMARY 1		1.820.521.00
PRIMW-5	7		11	6	1	7A			K	DISTRIBUTOR		
	7		11	6	1	7C			K	DISTRIBUTOR		
	7		11	6	1	7D			K	DISTRIBUTOR		
	7		11	7	2	4			J	VOLTAGE SELECTOR S02		55.12.0001
	7		11	7	3	3			J	VOLTAGE SELECTOR S03		55.12.0001
	7		11	8	2	5			Y	PRIMARY 2		1.820.522.00
PRIMW-6	0		11	8	2	6			Y	PRIMARY 2		1.820.522.00
	0		11	8	2	7			Y	PRIMARY 2		1.820.522.00
PULLUP11			4	1	5	18C				DAPRO INTERFACE		1.861.854.00
PULLUP12			4	1	5	29C				DAPRO INTERFACE		1.861.854.00
PULLUP9			4	1	7	10C				COEFFICIENT GENERATOR		1.861.856.00

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****************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T          * 86/12/08 * 10:54 *  P A G E 158  *
****************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                            * 86/08/27 - 00              *
****************************************************************************************************

SIGNAL NAME  COLOR MI  ASY GRP ELM PNT S LV TYPE            DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPL-H1               11  20   1   9                       SPOOLING MOTOR DRIVE AMP. LEFT   P01
                       11  20  40  28                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  33   2   9                       FROM GRP20. ELM01                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPL-H2               11  20   1  10                       SPOOLING MOTOR DRIVE AMP. LEFT   P01
                       11  20  40  34                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  33   2  10                       FROM GRP20. ELM01                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPL-L1               11  20   1   7                       SPOOLING MOTOR DRIVE AMP. LEFT   P01
                       11  20  40  35                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  33   2   7                       FROM GRP20. ELM01                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPL-L2               11  20   1   8                       SPOOLING MOTOR DRIVE AMP. LEFT   P01
                       11  33   2   8                       FROM GRP20. ELM01                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPL-L3               11  20   1  11                       SPOOLING MOTOR DRIVE AMP. LEFT   P01
                       11  20  40  29                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  33   2  11                       FROM GRP20. ELM01                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPL-L4               11  20   1  12                       SPOOLING MOTOR DRIVE AMP. LEFT   P01
                       11  20  40  33                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  33   2  12                       FROM GRP20. ELM01                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPL-L5               11  20   1  14                       SPOOLING MOTOR DRIVE AMP. LEFT   P01
                       11  20  40  32                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  33   2  14                       FROM GRP20. ELM01                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPL-L6               11  20   1  15                       SPOOLING MOTOR DRIVE AMP. LEFT   P01
                       11  20  40  31                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  33   2  15                       FROM GRP20. ELM01                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPR-H1               11  20   2   9                       SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                       11  20  40   7                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  30   2   9                       FROM GRP20. ELM02                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPR-H2               11  20   2  10                       SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                       11  20  40  38                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  30   2  10                       FROM GRP20. ELM02                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPR-L1               11  20   2   7                       SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                       11  20  40  39                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  30   2   7                       FROM GRP20. ELM02                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPR-L2               11  20   2   8                       SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                       11  30   2   8                       FROM GRP20. ELM02                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPR-L3               11  20   2  11                       SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                       11  20  40   8                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  30   2  11                       FROM GRP20. ELM02                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPR-L4               11  20   2  12                       SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                       11  20  40  37                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  30   2  12                       FROM GRP20. ELM02                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
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****************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T          * 86/12/08 * 10:54 *  P A G E 159  *
****************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                            * 86/08/27 - 00              *
****************************************************************************************************

SIGNAL NAME  COLOR MI  ASY GRP ELM PNT S LV TYPE            DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPR-L5               11  20   2  14                       SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                       11  20  40  36                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  30   2  14                       FROM GRP20. ELM02                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWMPR-L6               11  20   2  15                       SPOOLING MOTOR DRIVE AMP. RIGHT  P02
                       11  20  40  10                       SPOOLING MOTOR DRIVER            J01                1.820.759.00
                       11  30   2  15                       FROM GRP20. ELM02                P01
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
PWROK                   4   1  14 16B                       SYSTEM CONTROLLER 1                                 1.861.763.00
                        4   1  15 16B                       SYSTEM CONTROLLER 2                                 1.861.763.00
                        4   1  23 12A                       POWER SUPPLY                                        1.861.515.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RCV-232                11  20  50   9                       SMPTE/EBU INTERFACE              J11                1.820.751.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD101                 5   1   2  23                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3   1                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD102                 5   1   2  24                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3   2                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD103                 5   1   2  21                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3   3                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD104                 5   1   2  22                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3   4                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD105                 5   1   2  19                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3   5                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD106                 5   1   2  20                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3   6                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD107                 5   1   2  17                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3   7                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD108                 5   1   2  18                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3   8                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD109                 5   1   2  15                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3   9                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD110                 5   1   2  16                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3  10                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD111                 5   1   2  13                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3  11                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD112                 5   1   2  14                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   3  12                       CONNECTOR ODD TRACKS (AMP12)                        1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD201                 5   1   2  11                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   2   1                       CONNECTOR EVEN TRACKS (AMP12)                       1.861.805.00
------------ ----- --  --------------- - -- --------------- ------------------------------------- ---------  ---------------
RDHD202                 5   1   2  12                       READ HEAD INTERCONNECTION    (FLEXI)                1.116.861.20
                        5   3   2   2                       CONNECTOR EVEN TRACKS (AMP12)                       1.861.805.00
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****************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                           *  86/12/08  *  10:54  *  P A G E 160  *
****************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                       *  86/08/27 - 00                       *
****************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
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RDHD203                   5   1   2   9                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2   3                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
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RDHD204                   5   1   2  10                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2   4                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
-----------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  -------------
RDHD205                   5   1   2   7                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2   5                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
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RDHD206                   5   1   2   8                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2   6                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
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RDHD207                   5   1   2   5                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2   7                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
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RDHD208                   5   1   2   6                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2   8                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
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RDHD209                   5   1   2   3                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2   9                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
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RDHD210                   5   1   2   4                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2  10                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
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RDHD211                   5   1   2   1                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2  11                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
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RDHD212                   5   1   2   2                         READ HEAD INTERCONNECTION  (FLEXI)              1.116.861.20
                          5   3   2  12                         CONNECTOR EVEN TRACKS (AMP12)                   1.861.805.00
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RECEIVA                  11  20  31   6                         TO GRP25. ELM04/05             P21
                         11  20  50   6                         SMPTE/EBU INTERFACE            J11              1.820.751.00
                         11  25   4   8         B               CONNECTOR SMPTE/EBU BUS        J04
                         11  25   5   8         B               CONNECTOR SMPTE/EBU BUS        J05
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RECEIVB                  11  20  31   5                         TO GRP25. ELM04/05             P21
                         11  20  50   5                         SMPTE/EBU INTERFACE            J11              1.820.751.00
                         11  25   4   3         B               CONNECTOR SMPTE/EBU BUS        J04
                         11  25   5   3         B               CONNECTOR SMPTE/EBU BUS        J05
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RECEIVCM                 11  20  31   7                         TO GRP25. ELM04/05             P21
                         11  20  50   7                         SMPTE/EBU INTERFACE            J11              1.820.751.00
                         11  25   4   4         B               CONNECTOR SMPTE/EBU BUS        J04
                         11  25   5   4         B               CONNECTOR SMPTE/EBU BUS        J05
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RESHPG1                   4   1  10 11C                         TRANSFORMATTER                                  1.861.859.00
                          4   1  12 11C                         RT/TC CODEC                                     1.861.861.00
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RESHPG2                   4   1  10 12A                         TRANSFORMATTER                                  1.861.859.00
                          4   1  12 12A                         RT/TC CODEC                                     1.861.861.00
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RES1                      1  80   1 19C                         CUE/PQ DELAY                                    1.861.816.00
                          1  80   2 19A                         PDM MODULATOR                                   1.861.811.00
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****************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                           *  86/12/08  *  10:54  *  P A G E 161  *
****************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                       *  86/08/27 - 00                       *
****************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
-----------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  -------------
RES10                     1  80   3 24A                         PDM DEMODULATOR 1                               1.861.812.00
                          1  80   4 24C                         PDM DEMODULATOR 2                               1.861.812.00
                          4   1   4 26B                         GAINS CONTROL                                   1.861.853.00
-----------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  -------------
RES11                     1  80   3 24C                         PDM DEMODULATOR 1                               1.861.812.00
                          1  80   4 24A                         PDM DEMODULATOR 2                               1.861.812.00
                          4   1   4 26C                         GAINS CONTROL                                   1.861.853.00
-----------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  -------------
RES12                     1  80   3 25A                         PDM DEMODULATOR 1                               1.861.812.00
                          1  80   4 25C                         PDM DEMODULATOR 2                               1.861.812.00
                          4   1   4 29B                         GAINS CONTROL                                   1.861.853.00
-----------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  -------------
RES13                     1  80   3 25C                         PDM DEMODULATOR 1                               1.861.812.00
                          1  80   4 25A                         PDM DEMODULATOR 2                               1.861.812.00
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RES14                     1  80   3 26A                         PDM DEMODULATOR 1                               1.861.812.00
                          1  80   4 26C                         PDM DEMODULATOR 2                               1.861.812.00
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RES15                     1  80   3 26C                         PDM DEMODULATOR 1                               1.861.812.00
                          1  80   4 26A                         PDM DEMODULATOR 2                               1.861.812.00
                          4   1   6  4A                         DATA PROCESSOR                                  1.861.855.00
                          4   1   7  4A                         COEFFICIENT GENERATOR                           1.861.856.00
-----------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  -------------
RES16                     1  80   3 21A                         PDM DEMODULATOR 1                               1.861.812.00
                          1  80   4 21A                         PDM DEMODULATOR 2                               1.861.812.00
                          1  80   7 21A                         PDM CONTROL                                     1.861.813.00
                          4   1   6  4B                         DATA PROCESSOR                                  1.861.855.00
                          4   1   7  4B                         COEFFICIENT GENERATOR                           1.861.856.00
-----------  -----  --  ---------------  -  --  --------------  ----------------------------------  ---------  -------------
RES17                     1  80   3 21C                         PDM DEMODULATOR 1                               1.861.812.00
                          1  80   4 21C                         PDM DEMODULATOR 2                               1.861.812.00
                          1  80   7 21C                         PDM CONTROL                                     1.861.813.00
                          4   1   6  4C                         DATA PROCESSOR                                  1.861.855.00
                          4   1   7  4C                         COEFFICIENT GENERATOR                           1.861.856.00
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RES18                     1  80   6 27C                         ANALOG ROUTING                                  1.861.814.00
                          1  80   7 27A                         PDM CONTROL                                     1.861.813.00
                          4   1   6  7A                         DATA PROCESSOR                                  1.861.855.00
                          4   1   7  7A                         COEFFICIENT GENERATOR                           1.861.856.00
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RES19                     1  80   6 27A                         ANALOG ROUTING                                  1.861.814.00
                          1  80   7 27C                         PDM CONTROL                                     1.861.813.00
                          4   1   6  7B                         DATA PROCESSOR                                  1.861.855.00
                          4   1   7  7B                         COEFFICIENT GENERATOR                           1.861.856.00
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RES2                      1  80   1 28C                         CUE/PQ DELAY                                    1.861.816.00
                          1  80   2 28A                         PDM MODULATOR                                   1.861.811.00
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RES20                     4   1   6  7C                         DATA PROCESSOR                                  1.861.855.00
                          4   1   7  7C                         COEFFICIENT GENERATOR                           1.861.856.00
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RES21                     4   1   6  8A                         DATA PROCESSOR                                  1.861.855.00
                          4   1   7  8A                         COEFFICIENT GENERATOR                           1.861.856.00
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RES22                     4   1   7 23C                         COEFFICIENT GENERATOR                           1.861.856.00
                          4   1   9 23C                         CODEC MEMORY                                    1.861.858.00
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**********************************************************************************************************************************
*     WILLI STUDER AG    *     S  I  G  N  A  L     W  I  R  E     L  I  S  T                 *  86/12/08  *  10:54  *  P A G E 162  *
**********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                                *  86/08/27 - 00                       *
**********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                 REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
RES3                       1  80   1 29C                           CUE/PQ DELAY                                       1.861.816.00
                           1  80   2 29A                           PDM MODULATOR                                      1.861.811.00
                           4   1   4 21C                           GAINS CONTROL                                      1.861.853.00
                           4   1   6 21C                           DATA PROCESSOR                                     1.861.855.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
RES4                       1  80   1 30C                           CUE/PQ DELAY                                       1.861.816.00
                           1  80   2 30A                           PDM MODULATOR                                      1.861.811.00
                           4   1   4 24A                           GAINS CONTROL                                      1.861.853.00
                           4   1   6 22B                           DATA PROCESSOR                                     1.861.855.00
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RES5                       1  80   2 28C                           PDM MODULATOR                                      1.861.811.00
                           1  80   3 28A                           PDM DEMODULATOR 1                                  1.861.812.00
                           4   1   4 24B                           GAINS CONTROL                                      1.861.853.00
                           4   1   6 24A                           DATA PROCESSOR                                     1.861.855.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
RES6                       1  80   2 29C                           PDM MODULATOR                                      1.861.811.00
                           1  80   3 29A                           PDM DEMODULATOR 1                                  1.861.812.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
RES7                       1  80   2 30C                           PDM MODULATOR                                      1.861.811.00
                           1  80   3 30A                           PDM DEMODULATOR 1                                  1.861.812.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
RES8                       1  80   3 23A                           PDM DEMODULATOR 1                                  1.861.812.00
                           1  80   4 23C                           PDM DEMODULATOR 2                                  1.861.812.00
                           4   1   4 25C                           GAINS CONTROL                                      1.861.853.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
RES9                       1  80   3 23C                           PDM DEMODULATOR 1                                  1.861.812.00
                           1  80   4 23A                           PDM DEMODULATOR 2                                  1.861.812.00
                           4   1   4 26A                           GAINS CONTROL                                      1.861.853.00
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RPTREND                    4   1  11 19B                           RUN PROCESSOR                                      1.861.860.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
RTIOUT                     4   1  12 22B                           RT/TC CODEC                                        1.861.861.00
                           4   1  19  13                           CONNECTOR 4             (TC+AES+BNC)
                           4   1  20   6                           CONNECTOR 5             (TC+EXT CLK)
                           4   3   9   3                           RT OUTPUT                      (XLR)
                           4   3  25   7                           REFERENCE TIME I/O             (CIS)
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
RTOUT                      4   1  12 22A                           RT/TC CODEC                                        1.861.861.00
                           4   1  19  12                           CONNECTOR 4             (TC+AES+BNC)
                           4   1  20  19                           CONNECTOR 5             (TC+EXT CLK)
                           4   3   9   2                           RT OUTPUT                      (XLR)
                           4   3  25   6                           REFERENCE TIME I/O             (CIS)
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
RTSYNC                     4   1  10  8C                           TRANSFORMATTER                                     1.861.859.00
                           4   1  12  8C                           RT/TC CODEC                                        1.861.861.00
                           4   1  13  9C                           TIMING + TEST                                      1.861.862.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
S-LINE1       1           11   3   1   3        J                  POWER SWITCH
              1           11   4   1   1        Y                  LINE FILTER
              0           11   4   1   2        L                  LINE FILTER
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
S-LINE2       6           11   3   1   4        J                  POWER SWITCH
              0           11   4   1  12        L                  LINE FILTER
              6           11   4   1  16        Y                  LINE FILTER
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**********************************************************************************************************************************
*     WILLI STUDER AG    *     S  I  G  N  A  L     W  I  R  E     L  I  S  T                 *  86/12/08  *  10:54  *  P A G E 163  *
**********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                                *  86/08/27 - 00                       *
**********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                 REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
SACLK                      1  80   1 17C                           CUE/PQ DELAY                                       1.861.816.00
                           1  80   2 17A                           PDM MODULATOR                                      1.861.811.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
SAH1                       1  80   1 18C                           CUE/PQ DELAY                                       1.861.816.00
                           1  80   2 18A                           PDM MODULATOR                                      1.861.811.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
SAH2                       1  80   1 18A                           CUE/PQ DELAY                                       1.861.816.00
                           1  80   2 18C                           PDM MODULATOR                                      1.861.811.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
SAMPCLK                    4   1  13  4A                           TIMING + TEST                                      1.861.862.00
                           4   1  23 10B                           POWER SUPPLY                                       1.861.515.00
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SAMPICLK                   4   1  13  4B                           TIMING + TEST                                      1.861.862.00
                           4   1  23 10C                           POWER SUPPLY                                       1.861.515.00
------------  -----  --  ---------------  -  --  ---------------   ------------------------------------  ---------  --------------
SBIT0                      3   2   3   4                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1   4                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBIT1                      3   2   3   5                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1   5                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBIT2                      3   2   3   6                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1   6                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBIT3                      3   2   3   7                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1   7                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBIT4                      3   2   3   8                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1   8                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBIT5                      3   2   3   9                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1   9                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBIT6                      3   2   3  10                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1  10                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBIT7                      3   2   3  11                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1  11                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBY0                       3   2   3  14                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1  14                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBY1                       3   2   3  13                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1  13                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SBY2                       3   2   3  12                           DATA CCP KEYBOARD     (FLTCAB. 26P)                1.861.744.00
                           3  10   1  12                           DATA CCP TRANSCEIV. (FLATCABLE 26P)                1.861.743.00
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SECSYN                     4   1   4 22C                           GAINS CONTROL                                      1.861.853.00
                           4   1  10 13C                           TRANSFORMATTER                                     1.861.859.00
                           4   1  10 19B                           TRANSFORMATTER                                     1.861.859.00
                           4   1  13 20B                           TIMING + TEST                                      1.861.862.00
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* WILLI STUDER AG * SIGNAL WIRE LIST * 86/12/08 * 10:54 * PAGE 164 *

* 1.861.022.00 D820X PCM RECORDER * 86/08/27 - 00 *

SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
SF-LINE1	1		11	4	1	8			Y	LINE FILTER		
	3		11	4	1	9			L	LINE FILTER		
	1		11	4	1	10			Y	LINE FILTER		
	1		11	5	1	1			L	FUSE HOLDER. F01		53.03.0106
	1		11	5	2	1			L	FUSE HOLDER. F02		53.03.0106
SF-LINE2	3		11	4	1	19			L	LINE FILTER		
	4		11	4	1	20			Y	LINE FILTER		
	8		11	4	1	21			Y	LINE FILTER		
	4		11	6	1	4A			K	DISTRIBUTOR		
	4		11	6	1	4C			K	DISTRIBUTOR		
	4		11	6	1	4D			K	DISTRIBUTOR		
	3		11	6	1	8A			K	DISTRIBUTOR		
	8		11	6	1	8C			K	DISTRIBUTOR		
	3		11	6	1	8D			K	DISTRIBUTOR		
	4		11	7	1	4			J	VOLTAGE SELECTOR S01		55.12.0001
	3		11	7	3	4			J	VOLTAGE SELECTOR S03		55.12.0001
	3		11	8	2	8			Y	PRIMARY 2		1.820.522.00
	4		11	9	2	8			Y	PRIMARY 2		1.820.522.00
SHIELD			11	25	1	1			B	CONN. AUTOLOCATOR. REMOTE TIMER J01		
			11	26	2	1				TO GRP25. ELM01 P02		
SIGN.GND			11	25	1	8			B	CONN. AUTOLOCATOR. REMOTE TIMER J01		
			11	26	2	6				TO GRP25. ELM01 P02		
SLR			4	1	10	7C				TRANSFORMATTER		1.861.859.00
			4	1	12	24C				RT/TC CODEC		1.861.861.00
SND-232			11	20	50	14				SMPTE/EBU INTERFACE J11		1.820.751.00
SPARE			11	20	31	9				TO GRP25. ELM04/05 P21		
			11	25	4	5			B	CONNECTOR SMPTE/EBU BUS J04		
			11	25	5	5			B	CONNECTOR SMPTE/EBU BUS J05		
SPARE50			2	1	4	30C				DETECTOR		1.861.804.00
			2	1	5	30A				WRITE AMPLIFIER		1.861.803.00
SPARE51			2	1	4	24B				DETECTOR		1.861.804.00
			2	1	7	24B				PLAYBACK AMPLIFIER		1.861.801.00
SPARE52			2	1	4	25B				DETECTOR		1.861.804.00
			2	1	7	25B				PLAYBACK AMPLIFIER		1.861.801.00
SPARE53			2	1	4	31A				DETECTOR		1.861.804.00
			2	1	5	31C				WRITE AMPLIFIER		1.861.803.00
SPARE55			4	1	4	20B				GAINS CONTROL		1.861.853.00
			4	1	6	20B				DATA PROCESSOR		1.861.855.00
SPLINIT			4	1	4	21B				GAINS CONTROL		1.861.853.00
			4	1	5	20A				DAPRC INTERFACE		1.861.854.00
			4	1	6	20A				DATA PROCESSOR		1.861.855.00
SR-FADRY			11	25	3	6				CONN. PARALLEL REMOTE CONTROL J03		
			11	27	4	11				TO CONN. PARALLEL REMOTE CONTR. P04		

* WILLI STUDER AG * SIGNAL WIRE LIST * 86/12/08 * 10:54 * PAGE 165 *

* 1.861.022.00 D820X PCM RECORDER * 86/08/27 - 00 *

SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
SR-FORW			11	25	2	21			B	CONNECTOR SYNCHRONIZER J02		
			11	25	3	21			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	3	16				TO CONNECTOR SYNCHRONIZER P03		
			11	27	4	16				TO CONN. PARALLEL REMOTE CONTR. P04		
SR-LIFT			11	25	2	17			B	CONNECTOR SYNCHRONIZER J02		
			11	25	3	17			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	3	8				TO CONNECTOR SYNCHRONIZER P03		
			11	27	4	8				TO CONN. PARALLEL REMOTE CONTR. P04		
SR-LOCST			11	25	3	18			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	4	10				TO CONN. PARALLEL REMOTE CONTR. P04		
SR-MUTE			11	25	2	18			B	CONNECTOR SYNCHRONIZER J02		
			11	27	3	10				TO CONNECTOR SYNCHRONIZER P03		
SR-PLAY			11	25	2	22			B	CONNECTOR SYNCHRONIZER J02		
			11	25	3	22			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	3	18				TO CONNECTOR SYNCHRONIZER P03		
			11	27	4	18				TO CONN. PARALLEL REMOTE CONTR. P04		
SR-REC			11	25	2	19			B	CONNECTOR SYNCHRONIZER J02		
			11	25	3	19			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	3	12				TO CONNECTOR SYNCHRONIZER P03		
			11	27	4	12				TO CONN. PARALLEL REMOTE CONTR. P04		
SR-REHSL			11	25	2	6			B	CONNECTOR SYNCHRONIZER J02		
			11	27	3	11				TO CONNECTOR SYNCHRONIZER P03		
SR-RESET			11	25	3	10			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	4	19				TO CONN. PARALLEL REMOTE CONTR. P04		
SR-REW			11	25	2	20			B	CONNECTOR SYNCHRONIZER J02		
			11	25	3	20			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	3	14				TO CONNECTOR SYNCHRONIZER P03		
			11	27	4	14				TO CONN. PARALLEL REMOTE CONTR. P04		
SR-STOP			11	25	2	23			B	CONNECTOR SYNCHRONIZER J02		
			11	25	3	23			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	3	20				TO CONNECTOR SYNCHRONIZER P03		
			11	27	4	20				TO CONN. PARALLEL REMOTE CONTR. P04		
SR-VRSPD			11	25	2	5			B	CONNECTOR SYNCHRONIZER J02		
			11	25	3	5			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	3	9				TO CONNECTOR SYNCHRONIZER P03		
			11	27	4	9				TO CONN. PARALLEL REMOTE CONTR. P04		
SR-0LOC			11	25	3	14			B	CONN. PARALLEL REMOTE CONTROL J03		
			11	27	4	2				TO CONN. PARALLEL REMOTE CONTR. P04		
SSDACLK			1	73	2	14				BOX-RACK 2 (RACK) (25 PIN D-SUB)		1.861.583.00
			1	80	15	14				BOX-RACK 2 TO REAR PANEL TD		1.861.583.00
			1	80	22	8				RACK-TAPE DECK (SSDA) (26 PIN FLAT)		
			4	1	14	7A				SYSTEM CONTROLLER 1		1.861.763.00
			4	1	15	7A				SYSTEM CONTROLLER 2		1.861.763.00

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*    WILLI STUDER AG    *    S I G N A L     W I R E     L I S T                       * 86/12/08  *  10:54  *  P A G E 167     *
*************************************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                       * 86/08/27 - 00                            *
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SIGNAL NAME    COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                    REMARK     ELEMENT NR.
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SSDAIMRX                   1  73   2    4                          BOX-RACK 2 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                           1  80  15    4                          BOX-RACK 2 TO REAR PANEL TD                           1.861.583.00
                           1  80  22   26                          RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           4   1  14  11B                          SYSTEM CONTROLLER 1                                   1.861.763.00
                           4   1  15  11B                          SYSTEM CONTROLLER 2                                   1.861.763.00
                           4   1  22    4                          CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51    4                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33   26                          TO ASSY1. GR80. EL22              P25
                          11  20  51  32B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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SSDAIMTX                   1  73   2    3                          BOX-RACK 2 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                           1  80  15    3                          BOX-RACK 2 TO REAR PANEL TD                           1.861.583.00
                           1  80  22   14                          RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           4   1  14   8B                          SYSTEM CONTROLLER 1                                   1.861.763.00
                           4   1  15   8B                          SYSTEM CONTROLLER 2                                   1.861.763.00
                           4   1  22    3                          CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51    3                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33   14                          TO ASSY1. GR80. EL22              P25
                          11  20  51  26B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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SSDAMRX                    1  73   2   17                          BOX-RACK 2 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                           1  80  15   17                          BOX-RACK 2 TO REAR PANEL TD                           1.861.583.00
                           1  80  22   24                          RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           4   1  14  11A                          SYSTEM CONTROLLER 1                                   1.861.763.00
                           4   1  15  11A                          SYSTEM CONTROLLER 2                                   1.861.763.00
                           4   1  22   17                          CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51   17                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33   24                          TO ASSY1. GR80. EL22              P25
                          11  20  51  31B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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SSDAMTX                    1  73   2   16                          BOX-RACK 2 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                           1  80  15   16                          BOX-RACK 2 TO REAR PANEL TD                           1.861.583.00
                           1  80  22   12                          RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           4   1  14   8A                          SYSTEM CONTROLLER 1                                   1.861.763.00
                           4   1  15   8A                          SYSTEM CONTROLLER 2                                   1.861.763.00
                           4   1  22   16                          CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51   16                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33   12                          TO ASSY1. GR80. EL22              P25
                          11  20  51  25B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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SWITCGND       1           3   3   3    5                          AUDIO SPEAKER LEFT      (CIS 5P) J4                   1.861.746.00
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SWITCH         1           3   3   3    1                          AUDIO SPEAKER LEFT      (CIS 5P) J4                   1.861.746.00
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SWTR                       1  80   1  17A                          CUE/PQ DELAY                                          1.861.816.00
                           1  80   2  17C                          PDM MODULATOR                                         1.861.811.00
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SY/WDCKO                   4   1  13   8A                          TIMING + TEST                                         1.861.862.00
                           4   1  19   24                          CONNECTOR 4           (TC+AES+BNC)
                           4   3  13    1                          CLOCK OUTPUT                 (BNC)
                           4   3  26    6                          BNC INTERCONNECTION          (CIS)                    1.861.776.00
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SYS-CTS                   11  20  30    3                          SSDA INT. SYNCHRONIZER            P20
                          11  20  48  13B                          MASTER SERIAL INTERFACE           J09                 1.820.753.00
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*************************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L     W I R E     L I S T                       * 86/12/08  *  10:54  *  P A G E 166     *
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*               1.861.022.00  D820X PCM RECORDER                                       * 86/08/27 - 00                            *
*************************************************************************************************************************************

SIGNAL NAME    COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                    REMARK     ELEMENT NR.
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<<-- CONT.OF               4   1  22   14                          CONNECTOR 7       (BACKPANEL RACK 2)
SSDACLK                    4   1  51   14                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33    8                          TO ASSY1. GR80. EL22              P25
                          11  20  51  23B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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SSDACTS                    1  73   2   18                          BOX-RACK 2 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                           1  80  15   18                          BOX-RACK 2 TO REAR PANEL TD                           1.861.583.00
                           1  80  22   20                          RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           4   1  14   9A                          SYSTEM CONTROLLER 1                                   1.861.763.00
                           4   1  15   9A                          SYSTEM CONTROLLER 2                                   1.861.763.00
                           4   1  22   18                          CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51   18                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33   20                          TO ASSY1. GR80. EL22              P25
                          11  20  51  29B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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SSDADTR                    1  73   2   15                          BOX-RACK 2 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                           1  80  15   15                          BOX-RACK 2 TO REAR PANEL TD                           1.861.583.00
                           1  80  22   16                          RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           4   1  14  10A                          SYSTEM CONTROLLER 1                                   1.861.763.00
                           4   1  15  10A                          SYSTEM CONTROLLER 2                                   1.861.763.00
                           4   1  22   15                          CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51   15                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33   16                          TO ASSY1. GR80. EL22              P25
                          11  20  51  27B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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SSDAICLK                   1  73   2    1                          BOX-RACK 2 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                           1  80  15    1                          BOX-RACK 2 TO REAR PANEL TD                           1.861.583.00
                           1  80  22   10                          RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           4   1  14   7B                          SYSTEM CONTROLLER 1                                   1.861.763.00
                           4   1  15   7B                          SYSTEM CONTROLLER 2                                   1.861.763.00
                           4   1  22    1                          CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51    1                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33   10                          TO ASSY1. GR80. EL22              P25
                          11  20  51  24B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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SSDAICTS                   1  73   2    5                          BOX-RACK 2 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                           1  80  15    5                          BOX-RACK 2 TO REAR PANEL TD                           1.861.583.00
                           1  80  22   22                          RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           4   1  14   9B                          SYSTEM CONTROLLER 1                                   1.861.763.00
                           4   1  15   9B                          SYSTEM CONTROLLER 2                                   1.861.763.00
                           4   1  22    5                          CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51    5                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33   22                          TO ASSY1. GR80. EL22              P25
                          11  20  51  30B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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SSDAIDTR                   1  73   2    2                          BOX-RACK 2 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                           1  80  15    2                          BOX-RACK 2 TO REAR PANEL TD                           1.861.583.00
                           1  80  22   18                          RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                           4   1  14  10B                          SYSTEM CONTROLLER 1                                   1.861.763.00
                           4   1  15  10B                          SYSTEM CONTROLLER 2                                   1.861.763.00
                           4   1  22    2                          CONNECTOR 7       (BACKPANEL RACK 2)
                           4   1  51    2                          BOX-RACK 2 CONNECTOR        (CABLE)
                          11  20  33   18                          TO ASSY1. GR80. EL22              P25
                          11  20  51  28B                          MASTER SYSCON INTERFACE           J12                 1.861.721.00
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*********************************************************************************************************************
*    WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T          * 86/12/08  *  10:54  *  P A G E 168  *
*********************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                       * 86/08/27 - 00                      *
*********************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
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SYS-DTR                   11  20  30   5                         SSDA INT. SYNCHRONIZER          P20
                          11  20  48  13A                        MASTER SERIAL INTERFACE         J09                1.820.753.00
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SYS-RX                    11  20  30   4                         SSDA INT. SYNCHRONIZER          P20
                          11  20  48  12A                        MASTER SERIAL INTERFACE         J09                1.820.753.00
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SYS-TX                    11  20  30   6                         SSDA INT. SYNCHRONIZER          P20
                          11  20  48  12B                        MASTER SERIAL INTERFACE         J09                1.820.753.00
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SYSCFS1                    4   1  11  22C                        RUN PROCESSOR                                      1.861.860.00
                           4   1  12  22C                        RT/TC CODEC                                        1.861.861.00
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SYSCFS2                    4   1  11  23A                        RUN PROCESSOR                                      1.861.860.00
                           4   1  12  23A                        RT/TC CODEC                                        1.861.861.00
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SYWDIOUT                   4   1  13  14B                        TIMING + TEST                                      1.861.862.00
                           4   1  20   1                         CONNECTOR 5            (TC+EXT CLK)
                           4   3  11   1                         TC + EXTERNAL CLK CONNECTOR
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SYWDOUT                    4   1  13  14A                        TIMING + TEST                                      1.861.862.00
                           4   1  20  14                         CONNECTOR 5            (TC+EXT CLK)
                           4   3  11  14                         TC + EXTERNAL CLK CONNECTOR
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T-A0                      11  26   1  12                         FROM GRP27. ELM01               P01
                          11  27   1  12                         TO GRP26. ELM01                 P01
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T-A1                      11  26   1   9                         FROM GRP27. ELM01               P01
                          11  27   1   9                         TO GRP26. ELM01                 P01
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T-A2                      11  26   1  10                         FROM GRP27. ELM01               P01
                          11  27   1  10                         TO GRP26. ELM01                 P01
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T-A3                      11  26   1   7                         FROM GRP27. ELM01               P01
                          11  27   1   7                         TO GRP26. ELM01                 P01
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T-BD                      11  26   1   8                         FROM GRP27. ELM01               P01
                          11  27   1   8                         TO GRP26. ELM01                 P01
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T-B0                      11  26   1  15                         FROM GRP27. ELM01               P01
                          11  27   1  15                         TO GRP26. ELM01                 P01
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T-B1                      11  26   1  13                         FROM GRP27. ELM01               P01
                          11  27   1  13                         TO GRP26. ELM01                 P01
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T-B2                      11  26   1  14                         FROM GRP27. ELM01               P01
                          11  27   1  14                         TO GRP26. ELM01                 P01
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T-B3                      11  26   1  11                         FROM GRP27. ELM01               P01
                          11  27   1  11                         TO GRP26. ELM01                 P01
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T-DT-CH1                  11  20  18  12                         VU-METER PANEL. EXTERNAL        P18
                          11  20  19  12                         SOURCE SELECTOR                 P19
                          11  20  51   3B                        MASTER SYSCON INTERFACE         J12                1.861.721.00
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*********************************************************************************************************************
*    WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T          * 86/12/08  *  10:54  *  P A G E 169  *
*********************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                       * 86/08/27 - 00                      *
*********************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT              REMARK     ELEMENT NR.
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T-DT-CH2                  11  20  18  13                         VU-METER PANEL. EXTERNAL        P18
                          11  20  19  13                         SOURCE SELECTOR                 P19
                          11  20  51   4A                        MASTER SYSCON INTERFACE         J12                1.861.721.00
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T-DT-CH3                  11  20  18  14                         VU-METER PANEL. EXTERNAL        P18
                          11  20  19  14                         SOURCE SELECTOR                 P19
                          11  20  51   4B                        MASTER SYSCON INTERFACE         J12                1.861.721.00
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T-DT-MP                   11  20  17  15                         TO HEAD BLOCK ASSEMBLY          P17
                          11  20  18  15                         VU-METER PANEL. EXTERNAL        P18
                          11  20  19  15                         SOURCE SELECTOR                 P19
                          11  20  51   5A                        MASTER SYSCON INTERFACE         J12                1.861.721.00
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T-DT-RES                  11  20  17  16                         TO HEAD BLOCK ASSEMBLY          P17
                          11  20  18  16                         VU-METER PANEL. EXTERNAL        P18
                          11  20  19  16                         SOURCE SELECTOR                 P19
                          11  20  51   8A                        MASTER SYSCON INTERFACE         J12                1.861.721.00
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T-DT-RP1                  11  20  17  12                         TO HEAD BLOCK ASSEMBLY          P17
                          11  20  51   5B                        MASTER SYSCON INTERFACE         J12                1.861.721.00
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T-DT-RP2                  11  20  17  13                         TO HEAD BLOCK ASSEMBLY          P17
                          11  20  51   6A                        MASTER SYSCON INTERFACE         J12                1.861.721.00
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T-DT-SJM                  11  20  17  14                         TO HEAD BLOCK ASSEMBLY          P17
                          11  20  51   7A                        MASTER SYSCON INTERFACE         J12                1.861.721.00
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T-IRES2                   11  20  43   8B                        TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
                          11  20  43  19A                        TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
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T-IRES3                   11  20  43  22A                        TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
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T-IRES4                   11  20  43  23A                        TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
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T-IRES5                   11  20  43  24A                        TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
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T-IRES6                   11  20  43  25A                        TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
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T-IRES7                   11  20  43  26A                        TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
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T-OE                      11  26   1  20                         FROM GRP27. ELM01               P01
                          11  27   1  20                         TO GRP26. ELM01                 P01
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T-ORES2                   11  20  43   5A                        TAPE DECK PERIPHERY CONTR.      J04                1.820.762.00
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T-ORES3                   11  20  48  21A                        MASTER SERIAL INTERFACE         J09                1.820.753.00
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T-PWRUN       5            1  79   1   7                         POWER CONNECTOR  (24 PIN MOLEX FEM)
              5            1  79   2   7                         POWER CONNECTOR (24 PIN MOLEX MALE)
              5           11  19   1   7         F               FROM GRP32. ELM02               J01
              5           11  19   2   7         M               TO GRP21. ELM02                 P01
                          11  20  46  14                         MP-UNIT TO CONTROL              J07                1.820.785.00
                          11  20  49  14                         MP-UNIT MASTER                  J10                1.820.786.00
              5           11  20  62  14         U               WIRE FIELD
              5           11  20  70   7         F               FROM GRP21. ELM01               J13
                          11  32   2   7         M               OUTPUT                          P01
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***********************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                  *  86/12/08  *  10:54  *  P A G E 170    *
***********************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                   *  86/08/27 - 00                             *
***********************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                     REMARK      ELEMENT NR.
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T-READSL                 11  20  17  10                         TO HEAD BLOCK ASSEMBLY                P17
                         11  20  18  10                         VU-METER PANEL, EXTERNAL              P18
                         11  20  19  10                         SOURCE SELECTOR                       P19
                         11  20  51  2B                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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T-REFEXT                 11  20  16  15                         PARALLEL REMOTE CONTROL               P16
                         11  20  42 12B                         CAPSTAN INTERFACE                     J03                1.820.727.00
                         11  20  51 10A                         MASTER SYSCON INTERFACE               J12                1.861.721.00
                         11  27   2  15                         FROM GRP20, ELM16                     P02
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T-REFINT                 11  20   4  12                         PAR. CONT. INT. SYNCHRONIZER          P04
                         11  20  42 11B                         CAPSTAN INTERFACE                     J03                1.820.727.00
                         11  20  51 10B                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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T-RESET                  11  26   1  24                         FROM GRP27, ELM01                     P01
                         11  27   1  24                         TO GRP26, ELM01                       P01
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T-RL0                    11  26   1   4                         FROM GRP27, ELM01                     P01
                         11  27   1   4                         TO GRP26, ELM01                       P01
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T-RL1                    11  26   1   5                         FROM GRP27, ELM01                     P01
                         11  27   1   5                         TO GRP26, ELM01                       P01
-----------  -----  --  ---------------  -  --  --------------  -----------------------------------------  ---------  ---------------
T-RL2                    11  26   1  26                         FROM GRP27, ELM01                     P01
                         11  27   1  26                         TO GRP26, ELM01                       P01
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T-RL3                    11  26   1  25                         FROM GRP27, ELM01                     P01
                         11  27   1  25                         TO GRP26, ELM01                       P01
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T-RL4                    11  26   1  23                         FROM GRP27, ELM01                     P01
                         11  27   1  23                         TO GRP26, ELM01                       P01
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T-RL5                    11  26   1  22                         FROM GRP27, ELM01                     P01
                         11  27   1  22                         TO GRP26, ELM01                       P01
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T-RL6                    11  26   1  19                         FROM GRP27, ELM01                     P01
                         11  27   1  19                         TO GRP26, ELM01                       P01
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T-RL7                    11  26   1  18                         FROM GRP27, ELM01                     P01
                         11  27   1  18                         TO GRP26, ELM01                       P01
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T-SADA                   11  20  17   7                         TO HEAD BLOCK ASSEMBLY                P17
                         11  20  18   7                         VU-METER PANEL, EXTERNAL              P18
                         11  20  19   7                         SOURCE SELECTOR                       P19
                         11  20  51  1A                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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T-SADB                   11  20  17   8                         TO HEAD BLOCK ASSEMBLY                P17
                         11  20  18   8                         VU-METER PANEL, EXTERNAL              P18
                         11  20  19   8                         SOURCE SELECTOR                       P19
                         11  20  51  1B                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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T-SADC                   11  20  17   9                         TO HEAD BLOCK ASSEMBLY                P17
                         11  20  18   9                         VU-METER PANEL, EXTERNAL              P18
                         11  20  19   9                         SOURCE SELECTOR                       P19
                         11  20  51  2A                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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***********************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L    W I R E    L I S T                  *  86/12/08  *  10:54  *  P A G E 171    *
***********************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                   *  86/08/27 - 00                             *
***********************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                     REMARK      ELEMENT NR.
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T-SL0                    11  26   1  16                         FROM GRP27, ELM01                     P01
                         11  27   1  16                         TO GRP26, ELM01                       P01
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T-SL1                    11  26   1  17                         FROM GRP27, ELM01                     P01
                         11  27   1  17                         TO GRP26, ELM01                       P01
-----------  -----  --  ---------------  -  --  --------------  -----------------------------------------  ---------  ---------------
T-SL2                    11  26   1  21                         FROM GRP27, ELM01                     P01
                         11  27   1  21                         TO GRP26, ELM01                       P01
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T-SL3                    11  26   1   6                         FROM GRP27, ELM01                     P01
                         11  27   1   6                         TO GRP26, ELM01                       P01
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T-SPDSL1                 11  39   1  11                         FROM GRP20, ELM03                     P01
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T-SPDSL2                 11  39   1  12                         FROM GRP20, ELM03                     P01
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T-SUPVON                 11  20  14   6                         FUSE FAILURE DETECTOR                 P14
                         11  20  43 10B                         TAPE DECK PERIPHERY CONTR.            J04                1.820.762.00
                         11  59   1   6                         FROM GRP20, ELM14                     P01
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T-VARSPD                 11  20  18  21                         VU-METER PANEL, EXTERNAL              P18
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T-WRTSL                  11  20  17  11                         TO HEAD BLOCK ASSEMBLY                P17
                         11  20  18  11                         VU-METER PANEL, EXTERNAL              P18
                         11  20  19  11                         SOURCE SELECTOR                       P19
                         11  20  51  3A                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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TA-AUIR                  11  20  48 21B                         MASTER SERIAL INTERFACE               J09                1.820.753.00
                         11  20  51 11A                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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TAD-RESA                  1  80  22   2                         RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                         11  20  33   2                         TO ASSY1, GR80, EL22                  P25
                         11  20  51 20B                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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TAD-RESB                  1  80  22   4                         RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                         11  20  33   4                         TO ASSY1, GR80, EL22                  P25
                         11  20  51 21B                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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TAD-RESC                  1  80  22   6                         RACK-TAPE DECK (SSDA) (26 PIN FLAT)
                         11  20  33   6                         TO ASSY1, GR80, EL22                  P25
                         11  20  51 22B                         MASTER SYSCON INTERFACE               J12                1.861.721.00
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TANTR1                    3   3   5   6                         TO TANDEM POT           (CIS 6P)      J1                 1.912.001.30
                          3   7   1   1                         TANDEM POT SOLD.                                         1.912.001.30
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TANTR2                    3   3   5   1                         TO TANDEM POT           (CIS 6P)      J1                 1.912.001.30
                          3   7   1   5                         TANDEM POT SOLD.                                         1.912.001.30
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TAPETYPE                  4   1  11 23C                         RUN PROCESSOR                                            1.861.860.00
                          4   1  12 23C                         RT/TC CODEC                                              1.861.861.00
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TAVAR1                    3   3   5   5                         TO TANDEM POT           (CIS 6P)      J1                 1.912.001.30
                          3   7   1   2                         TANDEM POT SOLD.                                         1.912.001.30
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TAVAR2                    3   3   5   2                         TO TANDEM POT           (CIS 6P)      J1                 1.912.001.30
                          3   7   1   4                         TANDEM POT SOLD.                                         1.912.001.30
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**********************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                                 *  86/12/08  *  10:54  *  P A G E 172  *
**********************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                            *  86/08/27 - 00                      *
**********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
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TC-ADR0                  11  20  34  23                            INT. SYNCHRONIZER               P24
                         11  20  41  31                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  24A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-ADR1                  11  20  34  21                            INT. SYNCHRONIZER               P24
                         11  20  41  30                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  23A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-ADR2                  11  20  34  19                            INT. SYNCHRONIZER               P24
                         11  20  41  29                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  22A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-CAPDC                 11  20   3  14                            CAPSTAN MOTOR DRIVE AMPLIFIER   P03
                         11  20  41   4                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  39   1  14                            FROM GRP20, ELM03               P01
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TC-CDIRI                 11  20  41   6                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42   1A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-CPREF                 11  20   3  13                            CAPSTAN MOTOR DRIVE AMPLIFIER   P03
                         11  39   1  13                            FROM GRP20, ELM03               P01
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TC-DATA0                 11  20  34  39                            INT. SYNCHRONIZER               P24
                         11  20  41  39                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  32A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-DATA1                 11  20  34  37                            INT. SYNCHRONIZER               P24
                         11  20  41  38                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  31A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-DATA2                 11  20  34  35                            INT. SYNCHRONIZER               P24
                         11  20  41  37                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  30A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-DATA3                 11  20  34  33                            INT. SYNCHRONIZER               P24
                         11  20  41  36                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  29A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-DATA4                 11  20  34  31                            INT. SYNCHRONIZER               P24
                         11  20  41  35                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  28A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-DATA5                 11  20  34  29                            INT. SYNCHRONIZER               P24
                         11  20  41  34                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  27A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-DATA6                 11  20  34  27                            INT. SYNCHRONIZER               P24
                         11  20  41  33                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  26A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-DATA7                 11  20  34  25                            INT. SYNCHRONIZER               P24
                         11  20  41  32                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  25A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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**********************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                                 *  86/12/08  *  10:54  *  P A G E 173  *
**********************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                            *  86/08/27 - 00                      *
**********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
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TC-ENB                   11  20  34  17                            INT. SYNCHRONIZER               P24
                         11  20  41  28                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  21A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-ENBG                  11  20  34   7                            INT. SYNCHRONIZER               P24
                         11  20  41  11                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42   8B                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-EREF                  11  20  41  14                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  10B                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-HALL1                 11  38   1   4            F               FROM GRP39, ELM02               J01
                         11  39   2   4            M               TO GRP38, ELM01                 P02
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TC-HALL2                 11  38   1   7            F               FROM GRP39, ELM02               J01
                         11  39   2   7            M               TO GRP38, ELM01                 P02
------------  -----  --  ---------------  -  --  ----------------  ------------------------------------  ---------  ---------------
TC-HALL3                 11  38   1  10            F               FROM GRP39, ELM02               J01
                         11  39   2  10            M               TO GRP38, ELM01                 P02
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TC-INEX                  11  20  41   9                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  12A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-IRQ                   11  20  34   5                            INT. SYNCHRONIZER               P24
                         11  20  41  13                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42   9A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-REF                   11  20  41   8                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  11A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-REFP                  11  20  41   3                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42   4B                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-RESMP                 11  20  34   9                            INT. SYNCHRONIZER               P24
                         11  20  41  10                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42   8A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-RW                    11  20  34  15                            INT. SYNCHRONIZER               P24
                         11  20  41  27                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  20A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-SL1                   11  20  41  24                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  13A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-SL2                   11  20  41  23                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
                         11  20  42  14A                           CAPSTAN INTERFACE               J03                 1.820.727.00
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TC-SL3                   11  20  34   1                            INT. SYNCHRONIZER               P24
                         11  20  41  16                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
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TC-SL4                   11  20  34   3                            INT. SYNCHRONIZER               P24
                         11  20  41  15                            CAPSTAN CONTROL UNIT            J02                 1.820.764.00
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* WILLI STUDER AG * SIGNAL WIRE LIST * 86/12/08 * 10:54 * PAGE 174 *

* 1.861.022.00 D820X PCM RECORDER * 86/08/27 - 00 *

SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
TC-TCDIR			11	20	4	8				PAR. CONT. INT. SYNCHRONIZER P04		
			11	20	16	18				PARALLEL REMOTE CONTROL P16		
			11	20	42	6A				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	42	6B				CAPSTAN INTERFACE J03		1.820.727.00
			11	27	2	18				FROM GRP20. ELM16 P02		
TC-TCMV			11	20	4	10				PAR. CONT. INT. SYNCHRONIZER P04		
			11	20	16	17				PARALLEL REMOTE CONTROL P16		
			11	20	42	5A				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	42	5B				CAPSTAN INTERFACE J03		1.820.727.00
			11	27	2	17				FROM GRP20. ELM16 P02		
TC-TCMVI			11	20	41	5				CAPSTAN CONTROL UNIT J02		1.820.764.00
			11	20	42	2A				CAPSTAN INTERFACE J03		1.820.727.00
TCIIN			4	1	12	16B				RT/TC CODEC		1.861.861.00
			4	1	19	21				CONNECTOR 4 (TC+AES+BNC)		
			4	1	20	5				CONNECTOR 5 (TC+EXT CLK)		
			4	3	8	3				TC INPUT (XLR)		
			4	3	10	4				TIME CODE I/O BOARD (CIS)		
			4	3	11	5				TC + EXTERNAL CLK CONNECTOR		
			4	3	24	4				TC TRANSFORMATOR (CIS)		1.861.771.00
TCIN			4	1	12	16A				RT/TC CODEC		1.861.861.00
			4	1	19	20				CONNECTOR 4 (TC+AES+BNC)		
			4	1	20	18				CONNECTOR 5 (TC+EXT CLK)		
			4	3	8	2				TC INPUT (XLR)		
			4	3	10	3				TIME CODE I/O BOARD (CIS)		
			4	3	11	18				TC + EXTERNAL CLK CONNECTOR		
			4	3	24	3				TC TRANSFORMATOR (CIS)		1.861.771.00
TCIOUT			4	1	12	17B				RT/TC CODEC		1.861.861.00
			4	1	19	19				CONNECTOR 4 (TC+AES+BNC)		
			4	1	20	4				CONNECTOR 5 (TC+EXT CLK)		
			4	3	7	3				TC OUTPUT (XLR)		
			4	3	10	7				TIME CODE I/O BOARD (CIS)		
			4	3	11	4				TC + EXTERNAL CLK CONNECTOR		
			4	3	24	7				TC TRANSFORMATOR (CIS)		1.861.771.00
TCMOD			2	1	4	31B				DETECTOR		1.861.804.00
			2	1	7	31B				PLAYBACK AMPLIFIER		1.861.801.00
TCOUT			4	1	12	17A				RT/TC CODEC		1.861.861.00
			4	1	19	18				CONNECTOR 4 (TC+AES+BNC)		
			4	1	20	17				CONNECTOR 5 (TC+EXT CLK)		
			4	3	7	2				TC OUTPUT (XLR)		
			4	3	10	6				TIME CODE I/O BOARD (CIS)		
			4	3	11	17				TC + EXTERNAL CLK CONNECTOR		
			4	3	24	6				TC TRANSFORMATOR (CIS)		1.861.771.00
TCRCERR			4	1	8	24C				CODEC CONTROL		1.861.857.00
			4	1	10	21C				TRANSFORMATTER		1.861.859.00
TCY-4			4	1	8	22B				CODEC CONTROL		1.861.857.00
			4	1	10	22B				TRANSFORMATTER		1.861.859.00

* WILLI STUDER AG * SIGNAL WIRE LIST * 86/12/08 * 10:54 * PAGE 175 *

* 1.861.022.00 D820X PCM RECORDER * 86/08/27 - 00 *

SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
TD-ADR0			11	20	42	24B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	24B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	31				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	31				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	31				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	31				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-ADR1			11	20	42	23B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	23B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	30				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	30				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	30				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	30				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-ADR2			11	20	43	22B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	29				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	29				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	29				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	29				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-ADR3			11	20	44	6				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	46	6				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	24				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-CAPSY			11	20	4	13				PAR. CONT. INT. SYNCHRONIZER P04		
			11	20	41	7				CAPSTAN CONTROL UNIT J02		1.820.764.00
			11	20	48	22A				MASTER SERIAL INTERFACE J09		1.820.753.00
TD-CRES			11	20	41	26				CAPSTAN CONTROL UNIT J02		1.820.764.00
			11	20	43	6A				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
TD-C307K			11	20	5	7				SPOOLING MOTOR SUPPLY P05		
			11	20	46	22				MP-UNIT TD CONTROL J07		1.820.785.00
			11	31	3	7				FROM GRP20. ELM05 P02		
TD-C76K	9		1	79	1	4				POWER CONNECTOR (24 PIN MOLEX FEM)		
	9		1	79	2	4				POWER CONNECTOR (24 PIN MOLEX MALE)		
	9		11	19	1	4			F	FROM GRP32. ELM02 J01		
	9		11	19	2	4			M	TO GRP21. ELM02 P01		
			11	20	3	15				CAPSTAN MOTOR DRIVE AMPLIFIER P03		
			11	20	40	17				SPOOLING MOTOR DRIVER J01		1.820.759.00
			11	20	46	16				MP-UNIT TD CONTROL J07		1.820.785.00
	9		11	20	62	15			U	WIRE FIELD		
	9		11	20	70	4			F	FROM GRP21. ELM01 J13		
			11	32	2	4			M	OUTPUT P01		
			11	39	1	15				FROM GRP20. ELM03 P01		
TD-DATA0			11	20	42	32B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	32B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	39				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	39				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	39				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	39				TAPE DECK SERIAL INTERFACE J08		1.820.763.00

* WILLI STUDER AG * SIGNAL WIRE LIST * 86/12/08 * 10:54 * PAGE 176 *

* 1.861.022.00 D820X PCM RECORDER * 86/08/27 - 00 *

SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
TD-DATA1			11	20	42	31B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	31B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	38				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	38				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	38				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	38				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-DATA2			11	20	42	30B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	30B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	37				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	37				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	37				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	37				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-DATA3			11	20	42	29B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	29B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	36				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	36				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	36				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	36				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-DATA4			11	20	42	28B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	28B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	35				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	35				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	35				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	35				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-DATA5			11	20	42	27B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	27B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	34				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	34				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	34				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	34				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-DATA6			11	20	42	26B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	26B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	33				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	33				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	33				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	33				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-DATA7			11	20	42	25B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	25B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	32				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	32				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	32				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	32				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-ENB			11	20	42	21B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	43	21B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	44	28				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	45	28				SPOOLING MOTOR CONTROLLER J06		1.820.760.00
			11	20	46	28				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	28				TAPE DECK SERIAL INTERFACE J08		1.820.763.00

* WILLI STUDER AG * SIGNAL WIRE LIST * 86/12/08 * 10:54 * PAGE 177 *

* 1.861.022.00 D820X PCM RECORDER * 86/08/27 - 00 *

SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
TD-HEACT			11	20	43	9B				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	20	48	20A				MASTER SERIAL INTERFACE J09		1.820.753.00
TD-ICRE1			11	20	44	9				TAPE DECK COUNTER / TIMER J05		1.820.761.00
TD-ICRE2			11	20	44	11				TAPE DECK COUNTER / TIMER J05		1.820.761.00
TD-ICRE3			11	20	44	16				TAPE DECK COUNTER / TIMER J05		1.820.761.00
TD-ICRE4			11	20	44	17				TAPE DECK COUNTER / TIMER J05		1.820.761.00
TD-ICRE5			11	20	44	23				TAPE DECK COUNTER / TIMER J05		1.820.761.00
TD-IRQ			11	20	42	13B				CAPSTAN INTERFACE J03		1.820.727.00
			11	20	44	13				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	46	13				MP-UNIT TD CONTROL J07		1.820.785.00
			11	20	47	12				TAPE DECK SERIAL INTERFACE J08		1.820.763.00
TD-MOVE			11	20	43	4A				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
TD-MOVE1			11	20	11	9				MOVE SENSOR P11		
			11	20	44	7				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	45	1	9				FROM GRP20. ELM11 P01		
TD-MOVE2			11	20	11	8				MOVE SENSOR P11		
			11	20	44	8				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	45	1	8				FROM GRP20. ELM11 P01		
TD-MVCLK			1	80	21	2				RACK-TAPE DECK (SERVO)(26 PIN FLAT)		
			11	20	4	15				PAR. CONT. INT. SYNCHRONIZER P04		
			11	20	16	23				PARALLEL REMOTE CONTROL P16		
			11	20	32	2				TO ASSY1. GR80. EL21 P24		
			11	20	44	12				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	48	25B				MASTER SERIAL INTERFACE J09		1.820.753.00
			11	27	2	23				FROM GRP20. ELM16 P02		
TD-MVDIR			1	80	21	4				RACK-TAPE DECK (SERVO)(26 PIN FLAT)		
			11	20	4	14				PAR. CONT. INT. SYNCHRONIZER P04		
			11	20	16	24				PARALLEL REMOTE CONTROL P16		
			11	20	32	4				TO ASSY1. GR80. EL21 P24		
			11	20	44	14				TAPE DECK COUNTER / TIMER J05		1.820.761.00
			11	20	48	25A				MASTER SERIAL INTERFACE J09		1.820.753.00
			11	27	2	24				FROM GRP20. ELM16 P02		
TD-NMI			11	20	46	9				MP-UNIT TD CONTROL J07		1.820.785.00
TD-PENBL			11	20	40	23				SPOOLING MOTOR DRIVER J01		1.820.759.00
			11	20	43	20A				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
TD-PENBR			11	20	40	15				SPOOLING MOTOR DRIVER J01		1.820.759.00
			11	20	43	21A				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
TD-PWENB			11	20	5	8				SPOOLING MOTOR SUPPLY P05		
			11	20	43	10A				TAPE DECK PERIPHERY CONTR. J04		1.820.762.00
			11	31	3	8				FROM GRP20. ELM05 P02		

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*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                          * 86/12/08  *  10:54  *   P A G E 178   *
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*           1.861.022.00  D820X PCM RECORDER                                       * 86/08/27 - 00                           *
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SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                 REMARK     ELEMENT NR.
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TD-P14B                 11  20  46    1                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-P15B                 11  20  46    2                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-P16B                 11  20  46   12                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-P17B                 11  20  46    8                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-RALC1                11  20   7   14                         TAPE LIFT MOTOR, LEFT             P07
                        11  20  43   1B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  46   1   14                         FROM GRP20, ELM07                 P01
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TD-RALC2                11  20   7   12                         TAPE LIFT MOTOR, LEFT             P07
                        11  20  43   2B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  46   1   12                         FROM GRP20, ELM07                 P01
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TD-RALEN                11  20   7   15                         TAPE LIFT MOTOR, LEFT             P07
                        11  20  43   1A                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  46   1   15                         FROM GRP20, ELM07                 P01
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TD-RALP1                11  20   7   11                         TAPE LIFT MOTOR, LEFT             P07
                        11  20  43   3A                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  46   1   11                         FROM GRP20, ELM07                 P01
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TD-RALP2                11  20   7   13                         TAPE LIFT MOTOR, LEFT             P07
                        11  20  43   2A                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  46   1   13                         FROM GRP20, ELM07                 P01
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TD-RARC1                11  20   8   14                         TAPE LIFT MOTOR, RIGHT            P08
                        11  20  43   6B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  47   1   14                         FROM GRP20, ELM08                 P01
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TD-RARC2                11  20   8   12                         TAPE LIFT MOTOR, RIGHT            P08
                        11  20  43   7B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  47   1   12                         FROM GRP20, ELM08                 P01
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TD-RAREN                11  20   8   15                         TAPE LIFT MOTOR, RIGHT            P08
                        11  20  43   5B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  47   1   15                         FROM GRP20, ELM08                 P01
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TD-RARP1                11  20   8   11                         TAPE LIFT MOTOR, RIGHT            P08
                        11  20  43   3B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  47   1   11                         FROM GRP20, ELM08                 P01
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TD-RARP2                11  20   8   13                         TAPE LIFT MOTOR, RIGHT            P08
                        11  20  43   4B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  47   1   13                         FROM GRP20, ELM08                 P01
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TD-RES                  11  20  42  19B                         CAPSTAN INTERFACE                 J03               1.820.727.00
                        11  20  43  19B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  20  44   26                         TAPE DECK COUNTER / TIMER         J05               1.820.761.00
                        11  20  45   26                         SPOOLING MOTOR CONTROLLER         J06               1.820.760.00
                        11  20  47   26                         TAPE DECK SERIAL INTERFACE        J08               1.820.763.00
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TD-RESET                11  20  46   26                         MP-UNIT TO CONTROL                J07               1.820.785.00
                        11  20  47   23                         TAPE DECK SERIAL INTERFACE        J08               1.820.763.00
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**********************************************************************************************************************************
*   WILLI STUDER AG   *   S I G N A L   W I R E   L I S T                          * 86/12/08  *  10:54  *   P A G E 179   *
**********************************************************************************************************************************
*           1.861.022.00  D820X PCM RECORDER                                       * 86/08/27 - 00                           *
**********************************************************************************************************************************

SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                 REMARK     ELEMENT NR.
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TD-RESMP                11  20  46    5                         MP-UNIT TO CONTROL                J07               1.820.785.00
                        11  20  47   11                         TAPE DECK SERIAL INTERFACE        J08               1.820.763.00
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TD-RW                   11  20  42  20B                         CAPSTAN INTERFACE                 J03               1.820.727.00
                        11  20  43  20B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  20  44   27                         TAPE DECK COUNTER / TIMER         J05               1.820.761.00
                        11  20  45   27                         SPOOLING MOTOR CONTROLLER         J06               1.820.760.00
                        11  20  46   27                         MP-UNIT TO CONTROL                J07               1.820.785.00
                        11  20  47   27                         TAPE DECK SERIAL INTERFACE        J08               1.820.763.00
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TD-RX                   11  20  46   10                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-SHLD                 11  20   6    8                         EXT. SENSORS                      P06
                        11  20  43   8A                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  44   1    8                         FROM GRP20, ELM06                 P01
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TD-SL2                  11  20  46    4                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-SL3                  11  20  43  14B                         TAPE DECK PERIPHERY CONTR.        J04               1.820.762.00
                        11  20  46    3                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-SL4                  11  20  45   23                         SPOOLING MOTOR CONTROLLER         J06               1.820.760.00
                        11  20  46   23                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-SL5                  11  20  46   24                         MP-UNIT TO CONTROL                J07               1.820.785.00
                        11  20  47   25                         TAPE DECK SERIAL INTERFACE        J08               1.820.763.00
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TD-SL6                  11  20  44   25                         TAPE DECK COUNTER / TIMER         J05               1.820.761.00
                        11  20  46   25                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-SL7                  11  20  42  14B                         CAPSTAN INTERFACE                 J03               1.820.727.00
                        11  20  46   15                         MP-UNIT TO CONTROL                J07               1.820.785.00
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TD-TCM1                 11  20   3    8                         CAPSTAN MOTOR DRIVE AMPLIFIER     P03
                        11  20  41    1                         CAPSTAN CONTROL UNIT              J02               1.820.764.00
                        11  20  42   1B                         CAPSTAN INTERFACE                 J03               1.820.727.00
                        11  38   1    8           F             FROM GRP39, ELM02                 J01
                        11  39   1    8                         FROM GRP20, ELM03                 P01
                        11  39   2    8           M             TO GRP38, ELM01                   P02
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TD-TCM2                 11  20   3   10                         CAPSTAN MOTOR DRIVE AMPLIFIER     P03
                        11  20  41    2                         CAPSTAN CONTROL UNIT              J02               1.820.764.00
                        11  20  42   2B                         CAPSTAN INTERFACE                 J03               1.820.727.00
                        11  38   1   11           F             FROM GRP39, ELM02                 J01
                        11  39   1   10                         FROM GRP20, ELM03                 P01
                        11  39   2   11           M             TO GRP38, ELM01                   P02
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TD-TML1                 11  20   9    9                         TACHO SENSOR (SPOOLING M. LEFT)   P09
                        11  20  44    1                         TAPE DECK COUNTER / TIMER         J05               1.820.761.00
                        11  36   1    9                         TACHO SENSOR                      P01               1.820.771.00
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TD-TML2                 11  20   9    8                         TACHO SENSOR (SPOOLING M. LEFT)   P09
                        11  20  44    2                         TAPE DECK COUNTER / TIMER         J05               1.820.761.00
                        11  36   1    8                         TACHO SENSOR                      P01               1.820.771.00
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**********************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L     W I R E     L I S T                              *  86/12/08  *  10:54  *  P A G E 180  *
**********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                               *  86/08/27 - 00                     *
**********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
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TD-TMR1                   11  20  10   9                          TACHO SENSOR (SPOOLING M. RIGHT) P10
                          11  20  44   3                          TAPE DECK COUNTER / TIMER        J05                 1.820.761.00
                          11  37   1   9                          TACHO SENSOR                     P01                 1.820.771.00
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TD-TMR2                   11  20  10   8                          TACHO SENSOR (SPOOLING M. RIGHT) P10
                          11  20  44   4                          TAPE DECK COUNTER / TIMER        J05                 1.820.761.00
                          11  37   1   8                          TACHO SENSOR                     P01                 1.820.771.00
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TD-TRSP                   11  20   6   9                          EXT. SENSORS                     P06
                          11  20  43  9A                          TAPE DECK PERIPHERY CONTR.       J04                 1.820.762.00
                          11  44   1   9                          FROM GRP20. ELM06                P01
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TD-TRSPR                  11  20   6  10                          EXT. SENSORS                     P06
                          11  44   1  10                          FROM GRP20. ELM06                P01
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TD-TX                     11  20  46  11                          MP-UNIT TO CONTROL               J07                 1.820.785.00
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TD-YTRSP                  11  20   6   7                          EXT. SENSORS                     P06
                          11  44   1   7                          FROM GRP20. ELM06                P01
------------  -----  --  ---------------  -  --  ---------------  ------------------------------------  ---------  ---------------
TCECDASY                   4   1   9 24B                          CODEC MEMORY                                         1.861.858.00
                           4   1  10 21B                          TRANSFORMATTER                                       1.861.859.00
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TCMPRES                    2   1   4  5A                          DETECTOR                                             1.861.804.00
                           2   1   6  5A                          TAPE DECK MONITOR                                    1.861.802.00
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TDPHO1                     2   4   2   4                          INTERNAL PHONE CONNECTOR J2   (CIS)                  1.861.802.00
                           2   6   1   1                          INTERNAL PHONE PLUG         (SOLD.)                 54.240.102.00
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TDPHO2                     2   4   2   5                          INTERNAL PHONE CONNECTOR J2   (CIS)                  1.861.802.00
                           2   6   1   2                          INTERNAL PHONE PLUG         (SOLD.)                 54.240.102.00
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TDS-CLK                   11  20  30   2                          SSCA INT. SYNCHRONIZER           P20
                          11  20  47  17                          TAPE DECK SERIAL INTERFACE       J08                 1.820.763.00
                          11  20  48 19A                          MASTER SERIAL INTERFACE          J09                 1.820.753.00
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TDS-CTS                   11  20  47  16                          TAPE DECK SERIAL INTERFACE       J08                 1.820.763.00
                          11  20  48 11B                          MASTER SERIAL INTERFACE          J09                 1.820.753.00
------------  -----  --  ---------------  -  --  ---------------  ------------------------------------  ---------  ---------------
TDS-DTR                   11  20  47  15                          TAPE DECK SERIAL INTERFACE       J08                 1.820.763.00
                          11  20  48 11A                          MASTER SERIAL INTERFACE          J09                 1.820.753.00
------------  -----  --  ---------------  -  --  ---------------  ------------------------------------  ---------  ---------------
TDS-RX                    11  20  47  13                          TAPE DECK SERIAL INTERFACE       J08                 1.820.763.00
                          11  20  48 10A                          MASTER SERIAL INTERFACE          J09                 1.820.753.00
------------  -----  --  ---------------  -  --  ---------------  ------------------------------------  ---------  ---------------
TDS-TX                    11  20  47  14                          TAPE DECK SERIAL INTERFACE       J08                 1.820.763.00
                          11  20  48 10B                          MASTER SERIAL INTERFACE          J09                 1.820.753.00
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TDSPE1                     2   4   1   1                          INTERNAL SPEAKER CONNECTOR J1 (CIS)                  1.861.802.00
                           2   4   1   3                          INTERNAL SPEAKER CONNECTOR J1 (CIS)                  1.861.802.00
                           2   5   1   1                          INTERNAL SPEAKER            (SOLD.)                 71.010.108.00
------------  -----  --  ---------------  -  --  ---------------  ------------------------------------  ---------  ---------------
TDSP1GND                   2   4   1   2                          INTERNAL SPEAKER CONNECTOR J1 (CIS)                  1.861.802.00
                           2   5   1   2                          INTERNAL SPEAKER            (SOLD.)                 71.010.108.00
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TEST1                      4   1  12 12C                          RT/TC CODEC                                          1.861.861.00
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**********************************************************************************************************************************
*    WILLI STUDER AG    *    S I G N A L     W I R E     L I S T                              *  86/12/08  *  10:54  *  P A G E 181  *
**********************************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                               *  86/08/27 - 00                     *
**********************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                REMARK     ELEMENT NR.
------------  -----  --  ---------------  -  --  ---------------  ------------------------------------  ---------  ---------------
TFORMENC                   4   1   9 24A                          CODEC MEMORY                                         1.861.858.00
                           4   1  10 21A                          TRANSFORMATTER                                       1.861.859.00
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TIREFEXT                   1  73   1   7                          BOX-RACK 1 (RACK)     (25 PIN D-SUB)                 1.861.583.00
                           1  80  14   7                          BOX-RACK 1 TO REAR PANEL TD
                           1  80  21  14                          RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           4   1  13 16B                          TIMING + TEST                                        1.861.862.00
                           4   1  17   7                          CONNECTOR 2       (BACKPANEL RACK 1)
                           4   1  50   7                          BOX-RACK 1 CONNECTOR        (CABLE)
                          11  20  32  14                          TO ASSY1. GR80. EL21             P24
                          11  20  51  9B                          MASTER SYSCON INTERFACE          J12                 1.861.721.00
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TIREFINT                   1  73   1   6                          BOX-RACK 1 (RACK)     (25 PIN D-SUB)                 1.861.583.00
                           1  80  14   6                          BOX-RACK 1 TO REAR PANEL TD
                           1  80  21  10                          RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                           4   1  10 10B                          TRANSFORMATTER                                       1.861.859.00
                           4   1  17   6                          CONNECTOR 2       (BACKPANEL RACK 1)
                           4   1  50   6                          BOX-RACK 1 CONNECTOR        (CABLE)
                          11  20  32  10                          TO ASSY1. GR80. EL21             P24
                          11  20  51  7B                          MASTER SYSCON INTERFACE          J12                 1.861.721.00
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TL-A0                     11  50   4   6                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1   6                          FROM GRP50. ELM04
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TL-CS                     11  50   4   3                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1   3                          FROM GRP50. ELM04
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TL-D0                     11  50   4   7                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1   7                          FROM GRP50. ELM04
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TL-D1                     11  50   4   8                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1   8                          FROM GRP50. ELM04
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TL-D2                     11  50   4   9                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1   9                          FROM GRP50. ELM04
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TL-D3                     11  50   4  10                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1  10                          FROM GRP50. ELM04
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TL-D4                     11  50   4  11                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1  11                          FROM GRP50. ELM04
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TL-D5                     11  50   4  12                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1  12                          FROM GRP50. ELM04
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TL-D6                     11  50   4  13                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1  13                          FROM GRP50. ELM04
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TL-D7                     11  50   4  14                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1  14                          FROM GRP50. ELM04
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TL-ENB                    11  50   4   4                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1   4                          FROM GRP50. ELM04
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TL-RESET                  11  50   4  15                          CONNECTOR LCD DISPLAY UNIT       P04
                          11  52   1  15                          FROM GRP50. ELM04
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***********************************************************************************************************************
*    WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                 *  86/12/08  *  10:54  *  P A G E 182  *
***********************************************************************************************************************
*          1.861.022.00  D820X PCM RECORDER                                   *  86/08/27 - 00                        *
***********************************************************************************************************************

SIGNAL NAME  COLOR MI ASY GRP ELM PNT S LV TYPE             DESCRIPTION OF ELEMENT              REMARK    ELEMENT NR.
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TL-WR                 11   50   4   5                       CONNECTOR LCD DISPLAY UNIT     P04
                      11   52   1   5                       FROM GRP50. ELM04
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TM-A                  11   50   2  20                       CONNECTOR COMMAND UNIT         P03
                      11   51   1  20                       FROM GRP50.ELM02
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TM-ADR0               11   20  48 28B                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   20  49  31                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  31                       SMPTE/EBU INTERFACE            J11            1.820.751.00
                      11   20  51 24A                       MASTER SYSCON INTERFACE        J12            1.861.721.00
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TM-ADR1               11   20  48 28A                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   20  49  30                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  30                       SMPTE/EBU INTERFACE            J11            1.820.751.00
                      11   20  51 23A                       MASTER SYSCON INTERFACE        J12            1.861.721.00
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TM-ADR2               11   20  48 27B                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   20  49  29                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  29                       SMPTE/EBU INTERFACE            J11            1.820.751.00
                      11   20  51 22A                       MASTER SYSCON INTERFACE        J12            1.861.721.00
-----------  ----- -- --------------- - -- ---------------- ----------------------------------- --------  -------------
TM-ADR3               11   20  48 23B                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   20  49   6                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  17                       SMPTE/EBU INTERFACE            J11            1.820.751.00
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TM-B                  11   50   2  18                       CONNECTOR COMMAND UNIT         P03
                      11   51   1  18                       FROM GRP50.ELM02
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TM-BUSSW              11   20  49   8                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  15                       SMPTE/EBU INTERFACE            J11            1.820.751.00
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TM-C                  11   50   2  21                       CONNECTOR COMMAND UNIT         P03
                      11   51   1  21                       FROM GRP50.ELM02
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TM-CUE1               11   48   1  20                       FROM GRP50. ELM03
                      11   48   2   5                       CONNECTOR EDIT ASSEMBLY
                      11   49   1   5                       FROM GRP48. ELM02
                      11   50   3  20                       CONNECTOR PUSHBUTTON ASSEMBLY  P02
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TM-CUE2               11   48   1  22                       FROM GRP50. ELM03
                      11   48   2   7                       CONNECTOR EDIT ASSEMBLY
                      11   49   1   7                       FROM GRP48. ELM02
                      11   50   3  22                       CONNECTOR PUSHBUTTON ASSEMBLY  P02
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TM-C307K              11   20  49  22                       MP-UNIT MASTER                 J10            1.820.786.00
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TM-C76K               11   20  49  16                       MP-UNIT MASTER                 J10            1.820.786.00
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TM-D                  11   50   2  22                       CONNECTOR COMMAND UNIT         P03
                      11   51   1  22                       FROM GRP50.ELM02
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TM-DADR0              11   20  15  19                       DISPLAY DRIVER                 P15
                      11   20  16  19                       PARALLEL REMOTE CONTROL        P16
                      11   20  48  8A                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   27   2  19                       FROM GRP20. ELM16              P02
                      11   50   1  19                       FROM GRP20. ELM15              P01
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***********************************************************************************************************************
*    WILLI STUDER AG   *    S I G N A L    W I R E    L I S T                 *  86/12/08  *  10:54  *  P A G E 183  *
***********************************************************************************************************************
*          1.861.022.00  D820X PCM RECORDER                                   *  86/08/27 - 00                        *
***********************************************************************************************************************

SIGNAL NAME  COLOR MI ASY GRP ELM PNT S LV TYPE             DESCRIPTION OF ELEMENT              REMARK    ELEMENT NR.
-----------  ----- -- --------------- - -- ---------------- ----------------------------------- --------  -------------
TM-DADR1              11   20  15  17                       DISPLAY DRIVER                 P15
                      11   20  48  7A                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   50   1  17                       FROM GRP20. ELM15              P01
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TM-DADR2              11   20  15  15                       DISPLAY DRIVER                 P15
                      11   20  48  6A                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   50   1  15                       FROM GRP20. ELM15              P01
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TM-DATA0              11   20  15  39                       DISPLAY DRIVER                 P15
                      11   20  16  39                       PARALLEL REMOTE CONTROL        P16
                      11   20  48 32B                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   20  49  39                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  39                       SMPTE/EBU INTERFACE            J11            1.820.751.00
                      11   20  51 32A                       MASTER SYSCON INTERFACE        J12            1.861.721.00
                      11   27   2  39                       FROM GRP20. ELM16              P02
                      11   50   1  39                       FROM GRP20. ELM15              P01
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TM-DATA1              11   20  15  37                       DISPLAY DRIVER                 P15
                      11   20  16  37                       PARALLEL REMOTE CONTROL        P16
                      11   20  48 32A                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   20  49  38                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  38                       SMPTE/EBU INTERFACE            J11            1.820.751.00
                      11   20  51 31A                       MASTER SYSCON INTERFACE        J12            1.861.721.00
                      11   27   2  37                       FROM GRP20. ELM16              P02
                      11   50   1  37                       FROM GRP20. ELM15              P01
-----------  ----- -- --------------- - -- ---------------- ----------------------------------- --------  -------------
TM-DATA2              11   20  15  35                       DISPLAY DRIVER                 P15
                      11   20  16  35                       PARALLEL REMOTE CONTROL        P16
                      11   20  48 31B                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   20  49  37                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  37                       SMPTE/EBU INTERFACE            J11            1.820.751.00
                      11   20  51 30A                       MASTER SYSCON INTERFACE        J12            1.861.721.00
                      11   27   2  35                       FROM GRP20. ELM16              P02
                      11   50   1  35                       FROM GRP20. ELM15              P01
-----------  ----- -- --------------- - -- ---------------- ----------------------------------- --------  -------------
TM-DATA3              11   20  15  33                       DISPLAY DRIVER                 P15
                      11   20  16  33                       PARALLEL REMOTE CONTROL        P16
                      11   20  48 31A                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   20  49  36                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  36                       SMPTE/EBU INTERFACE            J11            1.820.751.00
                      11   20  51 29A                       MASTER SYSCON INTERFACE        J12            1.861.721.00
                      11   27   2  33                       FROM GRP20. ELM16              P02
                      11   50   1  33                       FROM GRP20. ELM15              P01
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TM-DATA4              11   20  15  31                       DISPLAY DRIVER                 P15
                      11   20  16  31                       PARALLEL REMOTE CONTROL        P16
                      11   20  48 30B                       MASTER SERIAL INTERFACE        J09            1.820.753.00
                      11   20  49  35                       MP-UNIT MASTER                 J10            1.820.786.00
                      11   20  50  35                       SMPTE/EBU INTERFACE            J11            1.820.751.00
                      11   20  51 28A                       MASTER SYSCON INTERFACE        J12            1.861.721.00
                      11   27   2  31                       FROM GRP20. ELM16              P02
                      11   50   1  31                       FROM GRP20. ELM15              P01
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**************************************************************************************************************************
*   WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T              *  86/12/08  *  10:54  *  P A G E 184   *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                          *  86/08/27 - 00                      *
**************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                 REMARK     ELEMENT NR.
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TM-DATA5                 11  20  15  29                           DISPLAY DRIVER                    P15
                         11  20  16  29                           PARALLEL REMOTE CONTROL           P16
                         11  20  48  30A                          MASTER SERIAL INTERFACE           J09              1.820.753.00
                         11  20  49  34                           MP-UNIT MASTER                    J10              1.820.786.00
                         11  20  50  34                           SMPTE/EBU INTERFACE               J11              1.820.751.00
                         11  20  51  27A                          MASTER SYSCON INTERFACE           J12              1.861.721.00
                         11  27   2  29                           FROM GRP20. ELM16                 P02
                         11  50   1  29                           FROM GRP20. ELM15                 P01
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TM-DATA6                 11  20  15  27                           DISPLAY DRIVER                    P15
                         11  20  16  27                           PARALLEL REMOTE CONTROL           P16
                         11  20  48  29B                          MASTER SERIAL INTERFACE           J09              1.820.753.00
                         11  20  49  33                           MP-UNIT MASTER                    J10              1.820.786.00
                         11  20  50  33                           SMPTE/EBU INTERFACE               J11              1.820.751.00
                         11  20  51  26A                          MASTER SYSCON INTERFACE           J12              1.861.721.00
                         11  27   2  27                           FROM GRP20. ELM16                 P02
                         11  50   1  27                           FROM GRP20. ELM15                 P01
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TM-DATA7                 11  20  15  25                           DISPLAY DRIVER                    P15
                         11  20  16  25                           PARALLEL REMOTE CONTROL           P16
                         11  20  48  29A                          MASTER SERIAL INTERFACE           J09              1.820.753.00
                         11  20  49  32                           MP-UNIT MASTER                    J10              1.820.786.00
                         11  20  50  32                           SMPTE/EBU INTERFACE               J11              1.820.751.00
                         11  20  51  25A                          MASTER SYSCON INTERFACE           J12              1.861.721.00
                         11  27   2  25                           FROM GRP20. ELM16                 P02
                         11  50   1  25                           FROM GRP20. ELM15                 P01
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TM-DENB                  11  20  15  13                           DISPLAY DRIVER                    P15
                         11  20  16  13                           PARALLEL REMOTE CONTROL           P16
                         11  20  48   5A                          MASTER SERIAL INTERFACE           J09              1.820.753.00
                         11  27   2  13                           FROM GRP20. ELM16                 P02
                         11  50   1  13                           FROM GRP20. ELM15                 P01
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TM-DP                    11  50   2  19                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  19                           FROM GRP50.ELM02
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TM-DRENB                 11  20  49  12                           MP-UNIT MASTER                    J10              1.820.786.00
                         11  20  50  12                           SMPTE/EBU INTERFACE               J11              1.820.751.00
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TM-DRES                  11  20  15   9                           DISPLAY DRIVER                    P15
                         11  20  16   9                           PARALLEL REMOTE CONTROL           P16
                         11  20  48   3A                          MASTER SERIAL INTERFACE           J09              1.820.753.00
                         11  27   2   9                           FROM GRP20. ELM16                 P02
                         11  50   1   9                           FROM GRP20. ELM15                 P01
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TM-DRW                   11  20  15  11                           DISPLAY DRIVER                    P15
                         11  20  16  11                           PARALLEL REMOTE CONTROL           P16
                         11  20  48   4A                          MASTER SERIAL INTERFACE           J09              1.820.753.00
                         11  27   2  11                           FROM GRP20. ELM16                 P02
                         11  50   1  11                           FROM GRP20. ELM15                 P01
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TM-DSL4                  11  20  15   7                           DISPLAY DRIVER                    P15
                         11  20  48   1A                          MASTER SERIAL INTERFACE           J09              1.820.753.00
                         11  50   1   7                           FROM GRP20. ELM15                 P01
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**************************************************************************************************************************
*   WILLI STUDER AG   *    S  I  G  N  A  L     W  I  R  E     L  I  S  T              *  86/12/08  *  10:54  *  P A G E 185   *
**************************************************************************************************************************
*            1.861.022.00  D820X PCM RECORDER                                          *  86/08/27 - 00                      *
**************************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                 REMARK     ELEMENT NR.
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TM-DSL5                  11  20  16   7                           PARALLEL REMOTE CONTROL           P16
                         11  20  48   2A                          MASTER SERIAL INTERFACE           J09              1.820.753.00
                         11  27   2   7                           FROM GRP20. ELM16                 P02
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TM-D0                    11  50   2  35                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  35                           FROM GRP50.ELM02
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TM-D1                    11  50   2  34                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  34                           FROM GRP50.ELM02
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TM-D2                    11  50   2  33                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  33                           FROM GRP50.ELM02
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TM-D3                    11  50   2  32                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  32                           FROM GRP50.ELM02
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TM-D4                    11  50   2  31                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  31                           FROM GRP50.ELM02
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TM-D5                    11  50   2  30                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  30                           FROM GRP50.ELM02
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TM-D6                    11  50   2  29                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  29                           FROM GRP50.ELM02
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TM-D7                    11  50   2  28                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  28                           FROM GRP50.ELM02
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TM-D8                    11  50   2  27                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  27                           FROM GRP50.ELM02
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TM-D9                    11  50   2  26                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  26                           FROM GRP50.ELM02
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TM-E                     11  50   2  24                           CONNECTOR COMMAND UNIT            P03
                         11  51   1  24                           FROM GRP50.ELM02
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TM-ENB                   11  20  48  27A                          MASTER SERIAL INTERFACE           J09              1.820.753.00
                         11  20  49  28                           MP-UNIT MASTER                    J10              1.820.786.00
                         11  20  50  28                           SMPTE/EBU INTERFACE               J11              1.820.751.00
                         11  20  51  21A                          MASTER SYSCON INTERFACE           J12              1.861.721.00
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TM-EN0                   11  48   1  12                           FROM GRP50. ELM03
                         11  48   2   4                           CONNECTOR EDIT ASSEMBLY
                         11  49   1   4                           FROM GRP48. ELM02
                         11  49   2   2                           WIRE FIELD
                         11  50   3  12                           CONNECTOR PUSHBUTTON ASSEMBLY     P02
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TM-EN1                   11  50   2   9                           CONNECTOR COMMAND UNIT            P03
                         11  51   1   9                           FROM GRP50.ELM02
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TM-EN2                   11  50   2   8                           CONNECTOR COMMAND UNIT            P03
                         11  51   1   8                           FROM GRP50.ELM02
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TM-EN3                   11  50   2   7                           CONNECTOR COMMAND UNIT            P03
                         11  51   1   7                           FROM GRP50.ELM02
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***************************************************************************************************************************************
*    WILLI STUDER AG    *     S  I  G  N  A  L     W  I  R  E     L  I  S  T                  *  86/12/08  *  10:54  *   P A G E 186   *
***************************************************************************************************************************************
*                 1.861.022.00  D820X PCM RECORDER                                            *  86/08/27 - 00                          *
***************************************************************************************************************************************

SIGNAL NAME   COLOR   MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                    REMARK    ELEMENT NR.
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TM-EN4                    11  50    2   6                           CONNECTER COMMAND UNIT               P03
                          11  51    1   6                           FROM GRP50.ELM02
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TM-F                      11  50    2  23                           CONNECTER COMMAND UNIT               P03
                          11  51    1  23                           FROM GRP50.ELM02
------------  -----   --  ---------------  -  --  ---------------   ----------------------------------------  --------  ---------------
TM-G                      11  50    2  25                           CONNECTER COMMAND UNIT               P03
                          11  51    1  25                           FROM GRP50.ELM02
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TM-IADR0                  11  20   15  20                           DISPLAY DRIVER                       P15
                          11  20   16  20                           PARALLEL REMOTE CONTROL              P16
                          11  20   48  8B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  27    2  20                           FROM GRP20. ELM16                    P02
                          11  50    1  20                           FROM GRP20. ELM15                    P01
------------  -----   --  ---------------  -  --  ---------------   ----------------------------------------  --------  ---------------
TM-IADR1                  11  20   15  18                           DISPLAY DRIVER                       P15
                          11  20   48  7B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  50    1  18                           FROM GRP20. ELM15                    P01
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TM-IADR2                  11  20   15  16                           DISPLAY DRIVER                       P15
                          11  20   48  6B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  50    1  16                           FROM GRP20. ELM15                    P01
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TM-IENB                   11  20   15  14                           DISPLAY DRIVER                       P15
                          11  20   16  14                           PARALLEL REMOTE CONTROL              P16
                          11  20   48  5B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  27    2  14                           FROM GRP20. ELM16                    P02
                          11  50    1  14                           FROM GRP20. ELM15                    P01
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TM-IRES                   11  20   15  10                           DISPLAY DRIVER                       P15
                          11  20   16  10                           PARALLEL REMOTE CONTROL              P16
                          11  20   48  3B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  27    2  10                           FROM GRP20. ELM16                    P02
                          11  50    1  10                           FROM GRP20. ELM15                    P01
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TM-IRQ                    11  20   48 24B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  20   49  13                           MP-UNIT MASTER                       J10               1.820.786.00
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TM-IRW                    11  20   15  12                           DISPLAY DRIVER                       P15
                          11  20   16  12                           PARALLEL REMOTE CONTROL              P16
                          11  20   48  4B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  27    2  12                           FROM GRP20. ELM16                    P02
                          11  50    1  12                           FROM GRP20. ELM15                    P01
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TM-ISL4                   11  20   15   8                           DISPLAY DRIVER                       P15
                          11  20   48  1B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  50    1   8                           FROM GRP20. ELM15                    P01
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TM-ISL5                   11  20   16   8                           PARALLEL REMOTE CONTROL              P16
                          11  20   48  2B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  27    2   8                           FROM GRP20. ELM16                    P02
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TM-KBIR                   11  20   15  23                           DISPLAY DRIVER                       P15
                          11  20   48 14B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  50    1  23                           FROM GRP20. ELM15                    P01
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***************************************************************************************************************************************
*    WILLI STUDER AG    *     S  I  G  N  A  L     W  I  R  E     L  I  S  T                  *  86/12/08  *  10:54  *   P A G E 187   *
***************************************************************************************************************************************
*                 1.861.022.00  D820X PCM RECORDER                                            *  86/08/27 - 00                          *
***************************************************************************************************************************************

SIGNAL NAME   COLOR   MI  ASY GRP ELM PNT  S  LV  TYPE              DESCRIPTION OF ELEMENT                    REMARK    ELEMENT NR.
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TM-L1                     11  50    2  37                           CONNECTER COMMAND UNIT               P03
                          11  51    1  37                           FROM GRP50.ELM02
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TM-L2                     11  50    2  36                           CONNECTER COMMAND UNIT               P03
                          11  51    1  36                           FROM GRP50.ELM02
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TM-L3                     11  50    2  38                           CONNECTER COMMAND UNIT               P03
                          11  51    1  38                           FROM GRP50.ELM02
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TM-NMI                    11  20   49   9                           MP-UNIT MASTER                       J10               1.820.786.00
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TM-P14B                   11  20   49   1                           MP-UNIT MASTER                       J10               1.820.786.00
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TM-P15B                   11  20   49   2                           MP-UNIT MASTER                       J10               1.820.786.00
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TM-REMIR                  11  20   16  21                           PARALLEL REMOTE CONTROL              P16
                          11  20   48 19B                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  27    2  21                           FROM GRP20. ELM16                    P02
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TM-RES                    11  20   48 24A                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  20   50  26                           SMPTE/EBU INTERFACE                  J11               1.820.751.00
                          11  20   51 19A                           MASTER SYSCON INTERFACE              J12               1.861.721.00
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TM-RESET                  11  20   48 26A                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  20   49  26                           MP-UNIT MASTER                       J10               1.820.786.00
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TM-RESMP                  11  20   48 23A                           MASTER SERIAL INTERFACE              J09               1.820.753.00
                          11  20   49   5                           MP-UNIT MASTER                       J10               1.820.786.00
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TM-RL0                    11  50    2  12                           CONNECTER COMMAND UNIT               P03
                          11  51    1  12                           FROM GRP50.ELM02
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TM-RL1                    11  48    1  19                           FROM GRP50. ELM03
                          11  48    2   6                           CONNECTER EDIT ASSEMBLY
                          11  49    1   6                           FROM GRP48. ELM02
                          11  49    2   4                           WIRE FIELD
                          11  50    2  13                           CONNECTER COMMAND UNIT               P03
                          11  50    3  19                           CONNECTER PUSHBUTTON ASSEMBLY        P02
                          11  51    1  13                           FROM GRP50.ELM02
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TM-RL2                    11  48    1  18                           FROM GRP50. ELM03
                          11  50    2  14                           CONNECTER COMMAND UNIT               P03
                          11  50    3  18                           CONNECTER PUSHBUTTON ASSEMBLY        P02
                          11  51    1  14                           FROM GRP50.ELM02
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TM-RL3                    11  48    1  17                           FROM GRP50. ELM03
                          11  50    2  15                           CONNECTER COMMAND UNIT               P03
                          11  50    3  17                           CONNECTER PUSHBUTTON ASSEMBLY        P02
                          11  51    1  15                           FROM GRP50.ELM02
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TM-RL4                    11  48    1  16                           FROM GRP50. ELM03
                          11  50    2  16                           CONNECTER COMMAND UNIT               P03
                          11  50    3  16                           CONNECTER PUSHBUTTON ASSEMBLY        P02
                          11  51    1  16                           FROM GRP50.ELM02
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*****************************************************************************************************************************
*   WILLI STUDER AG   *    S  I  G  N  A  L    W  I  R  E    L  I  S  T                   *  86/12/08  *  10:54  *  P A G E 188  *
*****************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                             *  86/08/27 - 00                     *
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SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
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TM-RL5                  11  48   1  15                           FROM GRP50. ELM03
                        11  50   2  17                           CONNECTOR COMMAND UNIT              P03
                        11  50   3  15                           CONNECTOR PUSHBUTTON ASSEMBLY       P02
                        11  51   1  17                           FROM GRP50.ELM02
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TM-RL6                  11  48   1  14                           FROM GRP50. ELM03
                        11  50   2  10                           CONNECTOR COMMAND UNIT              P03
                        11  50   3  14                           CONNECTOR PUSHBUTTON ASSEMBLY       P02
                        11  51   1  10                           FROM GRP50.ELM02
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TM-RL7                  11  48   1  13                           FROM GRP50. ELM03
                        11  50   2  11                           CONNECTOR COMMAND UNIT              P03
                        11  50   3  13                           CONNECTOR PUSHBUTTON ASSEMBLY       P02
                        11  51   1  11                           FROM GRP50.ELM02
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TM-RW                   11  20  48  26B                          MASTER SERIAL INTERFACE             J09                  1.820.753.00
                        11  20  49  27                           MP-UNIT MASTER                      J10                  1.820.786.00
                        11  20  50  27                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
                        11  20  51  20A                          MASTER SYSCON INTERFACE             J12                  1.861.721.00
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TM-RX                   11  20  49  10                           MP-UNIT MASTER                      J10                  1.820.786.00
                        11  20  50  10                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
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TM-SEIR                 11  20  48  20B                          MASTER SERIAL INTERFACE             J09                  1.820.753.00
                        11  20  50  13                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
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TM-SHIR                 11  20  15  21                           DISPLAY DRIVER                      P15
                        11  20  48  14A                          MASTER SERIAL INTERFACE             J09                  1.820.753.00
                        11  50   1  21                           FROM GRP20. ELM15                   P01
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TM-SL2                  11  20  48  22B                          MASTER SERIAL INTERFACE             J09                  1.820.753.00
                        11  20  49   4                           MP-UNIT MASTER                      J10                  1.820.786.00
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TM-SL3                  11  20  49   3                           MP-UNIT MASTER                      J10                  1.820.786.00
                        11  20  50  16                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
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TM-SL4                  11  20  48   9A                          MASTER SERIAL INTERFACE             J09                  1.820.753.00
                        11  20  49  23                           MP-UNIT MASTER                      J10                  1.820.786.00
                        11  20  50  23                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
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TM-SL5                  11  20  48   9B                          MASTER SERIAL INTERFACE             J09                  1.820.753.00
                        11  20  49  24                           MP-UNIT MASTER                      J10                  1.820.786.00
                        11  20  50  24                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
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TM-SL6                  11  20  49  25                           MP-UNIT MASTER                      J10                  1.820.786.00
                        11  20  50  25                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
                        11  20  51  14A                          MASTER SYSCON INTERFACE             J12                  1.861.721.00
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TM-SL7                  11  20  49  15                           MP-UNIT MASTER                      J10                  1.820.786.00
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TM-TX                   11  20  49  11                           MP-UNIT MASTER                      J10                  1.820.786.00
                        11  20  50  11                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
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TR-A                    11  25   1   3          B-               CONN. AUTOLOCATOR, REMOTE TIMER     J01
                        11  26   2   5                           TO GRP25. ELM01                     P02
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*****************************************************************************************************************************
*   WILLI STUDER AG   *    S  I  G  N  A  L    W  I  R  E    L  I  S  T                   *  86/12/08  *  10:54  *  P A G E 189  *
*****************************************************************************************************************************
*             1.861.022.00  D820X PCM RECORDER                                             *  86/08/27 - 00                     *
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SIGNAL NAME  COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
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TR-B                    11  25   1   7          B                CONN. AUTOLOCATOR, REMOTE TIMER     J01
                        11  26   2   4                           TO GRP25. ELM01                     P02
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TRACK11                  1  80   3  18C                          PDM DEMODULATOR 1                                        1.861.812.00
                         1  80   4  18A                          PDM DEMODULATOR 2                                        1.861.812.00
                         1  80   6  19C                          ANALOG ROUTING                                           1.861.814.00
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TRACK12                  1  80   3  18A                          PDM DEMODULATOR 1                                        1.861.812.00
                         1  80   6  19A                          ANALOG ROUTING                                           1.861.814.00
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TRANSA                  11  20  31   3                           TO GRP25. ELM04/05                  P21
                        11  20  50   3                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
                        11  25   4   2          B                CONNECTOR SMPTE/EBU BUS             J04
                        11  25   5   2          B                CONNECTOR SMPTE/EBU BUS             J05
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TRANSB                  11  20  31   4                           TO GRP25. ELM04/05                  P21
                        11  20  50   4                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
                        11  25   4   7          B                CONNECTOR SMPTE/EBU BUS             J04
                        11  25   5   7          B                CONNECTOR SMPTE/EBU BUS             J05
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TRANSCM                 11  20  31   2                           TO GRP25. ELM04/05                  P21
                        11  20  50   2                           SMPTE/EBU INTERFACE                 J11                  1.820.751.00
                        11  25   4   6          B                CONNECTOR SMPTE/EBU BUS             J04
                        11  25   5   6          B                CONNECTOR SMPTE/EBU BUS             J05
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TREFEXT                  1  73   1  20                           BOX-RACK 1 (RACK)     (25 PIN D-SUB)                     1.861.583.00
                         1  80  14  20                           BOX-RACK 1 TO REAR PANEL TO
                         1  80  21  12                           RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                         4   1  13  16A                          TIMING + TEST                                            1.861.862.00
                         4   1  17  20                           CONNECTOR 2       (BACKPANEL RACK 1)
                         4   1  50  20                           BOX-RACK 1 CONNECTOR         (CABLE)
                        11  20  32  12                           TO ASSY1. GR80. EL21                P24
                        11  20  51   8B                          MASTER SYSCON INTERFACE             J12                  1.861.721.00
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TREFINT                  1  73   1  19                           BOX-RACK 1 (RACK)     (25 PIN D-SUB)                     1.861.583.00
                         1  80  14  19                           BOX-RACK 1 TO REAR PANEL TO
                         1  80  21   8                           RACK-TAPE DECK (SERVO)(26 PIN FLAT)
                         4   1  10  10A                          TRANSFORMATTER                                           1.861.859.00
                         4   1  17  19                           CONNECTOR 2       (BACKPANEL RACK 1)
                         4   1  50  19                           BOX-RACK 1 CONNECTOR         (CABLE)
                        11  20  32   8                           TO ASSY1. GR80. EL21                P24
                        11  20  51   6B                          MASTER SYSCON INTERFACE             J12                  1.861.721.00
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TRENTEST                 1  80   1   8C                          CUE/PC DELAY                                             1.861.816.00
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TRI1                     4   1  13  13C                          TIMING + TEST                                            1.861.862.00
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TSTSIFRD                 4   1  14   4B                          SYSTEM CONTROLLER 1                                      1.861.763.00
                         4   1  15   4B                          SYSTEM CONTROLLER 2                                      1.861.763.00
                         4   1  21   2                           CONNECTOR 6              (TERMINAL)
                         4   3  12   2                           TEST (TERMINAL)             (RS232)
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TSTSIFTD                 4   1  14   4A                          SYSTEM CONTROLLER 1                                      1.861.763.00
                         4   1  15   4A                          SYSTEM CONTROLLER 2                                      1.861.763.00
                         4   1  21   3                           CONNECTOR 6              (TERMINAL)
                         4   3  12   3                           TEST (TERMINAL)             (RS232)
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*****************************************************************************************************************
*    WILLI STUDER AG    *    S  I  G  N  A  L     W  I  R  E     L  I  S  T           * 86/12/08  *  10:54  *  P A G E 190   *
*****************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                        * 86/08/27 - 00                      *
*****************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
-----------   -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  --------------
TTIXLOOP                  4   1  10  13A                          TRANSFORMATTER                                        1.861.859.00
                          4   1  12   7A                          RT/TC CODEC                                           1.861.861.00
                          4   1  13  13A                          TIMING + TEST                                         1.861.862.00
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TTRDEMPH                  4   1  10  12C                          TRANSFORMATTER                                        1.861.859.00
                          4   1  13  12C                          TIMING + TEST                                         1.861.862.00
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TTREC                     4   1  10  13B                          TRANSFORMATTER                                        1.861.859.00
                          4   1  13  13B                          TIMING + TEST                                         1.861.862.00
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TTWREMPH                  4   1  10  12B                          TRANSFORMATTER                                        1.861.859.00
                          4   1  13  12B                          TIMING + TEST                                         1.861.862.00
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UREC                      2   1   4  24A                          DETECTOR                                              1.861.804.00
                          2   1   5  24C                          WRITE AMPLIFIER                                       1.861.803.00
-----------   -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  --------------
VCLKIN                    4   1  13   7A                          TIMING + TEST                                         1.861.862.00
                          4   1  19  23                           CONNECTOR 4             (TC+AES+BNC)
                          4   3  15   1                           VIDEO CLOCK INPUT              (BNC)
                          4   3  26   1                           BNC INTERCONNECTION            (CIS)                  1.861.776.00
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VIDCLK                    4   1  13   9A                          TIMING + TEST                                         1.861.862.00
                          4   1  20  16                           CONNECTOR 5              (TC+EXT CLK)
                          4   3  11  16                           TC + EXTERNAL CLK CONNECTOR
-----------   -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  --------------
VIDICLK                   4   1  13   9B                          TIMING + TEST                                         1.861.862.00
                          4   1  20   3                           CONNECTOR 5              (TC+EXT CLK)
                          4   3  11   3                           TC + EXTERNAL CLK CONNECTOR
-----------   -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  --------------
WCCKI                     4   1  13   7C                          TIMING + TEST                                         1.861.862.00
                          4   1  19  22                           CONNECTOR 4             (TC+AES+BNC)
                          4   3  14   1                           CLOCK INPUT                    (BNC)
                          4   3  26   4                           BNC INTERCONNECTION            (CIS)                  1.861.776.00
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WCIIN                     4   1  13  10B                          TIMING + TEST                                         1.861.862.00
                          4   1  20   2                           CONNECTOR 5              (TC+EXT CLK)
                          4   3  11   2                           TC + EXTERNAL CLK CONNECTOR
-----------   -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  --------------
WCIN                      4   1  13  10A                          TIMING + TEST                                         1.861.862.00
                          4   1  20  15                           CONNECTOR 5              (TC+EXT CLK)
                          4   3  11  15                           TC + EXTERNAL CLK CONNECTOR
-----------   -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  --------------
WRCLK4                    1  73   3  15                           BOX-RACK 3 (CAGE)     (25 PIN D-SUB)                  1.861.583.00
                          2   1   1  15                           REARPANEL TC (BOX)      (D-SUB 25P)                   1.861.895.00
                          2   1   5  19A                          WRITE AMPLIFIER                                       1.861.803.00
                          4   1  10   7A                          TRANSFORMATTER                                        1.861.859.00
                          4   1  18  15                           CONNECTOR 3        (BACKPANEL RACK 3)
                          4   1  52  15                           BOX-RACK 3 CONNECTOR         (CABLE)
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WRDOUT                    1  73   3  16                           BOX-RACK 3 (CAGE)     (25 PIN D-SUB)                  1.861.583.00
                          2   1   1  16                           REARPANEL TD (BOX)      (D-SUB 25P)                   1.861.895.00
                          2   1   5  18A                          WRITE AMPLIFIER                                       1.861.803.00
                          4   1  10   8A                          TRANSFORMATTER                                        1.861.859.00
                          4   1  18  16                           CONNECTOR 3        (BACKPANEL RACK 3)
                          4   1  52  16                           BOX-RACK 3 CONNECTOR         (CABLE)
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*****************************************************************************************************************
*    WILLI STUDER AG    *    S  I  G  N  A  L     W  I  R  E     L  I  S  T           * 86/12/08  *  10:54  *  P A G E 191   *
*****************************************************************************************************************
*              1.861.022.00  D820X PCM RECORDER                                        * 86/08/27 - 00                      *
*****************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE             DESCRIPTION OF ELEMENT                   REMARK     ELEMENT NR.
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WRICLK4                   1  73   3   2                           BOX-RACK 3 (CAGE)     (25 PIN D-SUB)                  1.861.583.00
                          2   1   1   2                           REARPANEL TD (BOX)      (D-SUB 25P)                   1.861.895.00
                          2   1   5  19C                          WRITE AMPLIFIER                                       1.861.803.00
                          4   1  10   7B                          TRANSFORMATTER                                        1.861.859.00
                          4   1  18   2                           CONNECTOR 3        (BACKPANEL RACK 3)
                          4   1  52   2                           BOX-RACK 3 CONNECTOR         (CABLE)
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WRIDOUT                   1  73   3   3                           BOX-RACK 3 (CAGE)     (25 PIN D-SUB)                  1.861.583.00
                          2   1   1   3                           REARPANEL TD (BOX)      (D-SUB 25P)                   1.861.895.00
                          2   1   5  18C                          WRITE AMPLIFIER                                       1.861.803.00
                          4   1  10   8B                          TRANSFORMATTER                                        1.861.859.00
                          4   1  18   3                           CONNECTOR 3        (BACKPANEL RACK 3)
                          4   1  52   3                           BOX-RACK 3 CONNECTOR         (CABLE)
-----------   -----  --  ---------------  -  --  ---------------  ---------------------------------------  ---------  --------------
WRISYO                    1  73   3   4                           BOX-RACK 3 (CAGE)     (25 PIN D-SUB)                  1.861.583.00
                          2   1   1   4                           REARPANEL TD (BOX)      (D-SUB 25P)                   1.861.895.00
                          2   1   5  17C                          WRITE AMPLIFIER                                       1.861.803.00
                          4   1  10   9B                          TRANSFORMATTER                                        1.861.859.00
                          4   1  18   4                           CONNECTOR 3        (BACKPANEL RACK 3)
                          4   1  52   4                           BOX-RACK 3 CONNECTOR         (CABLE)
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WRITR1                    1  73   1   8                           BOX-RACK 1 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                          1  80  12   6                           RACK-CAGE             (25 PIN D-SUB)
                          1  80  14   8                           BOX-RACK 1 TO REAR PANEL TD
                          2   1   3   6                           BACKPANEL RACK          (D-SUB 25P)                   1.861.895.00
                          2   1   5   2C                          WRITE AMPLIFIER                                       1.861.803.00
                          4   1  12  11B                          RT/TC CODEC                                           1.861.861.00
                          4   1  17   8                           CONNECTOR 2        (BACKPANEL RACK 1)
                          4   1  50   8                           BOX-RACK 1 CONNECTOR         (CABLE)
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WRITR11                   1  80   1   6C                          CUE/PC DELAY                                          1.861.816.00
                          1  80   2   4C                          PDM MODULATOR                                         1.861.811.00
                          1  80   3   6C                          PDM DEMODULATOR 1                                     1.861.812.00
                          1  80  12   8                           RACK-CAGE             (25 PIN D-SUB)
                          2   1   3   8                           BACKPANEL RACK          (D-SUB 25P)                   1.861.895.00
                          2   1   5   4C                          WRITE AMPLIFIER                                       1.861.803.00
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WRITR12                   1  80   2   5C                          PDM MODULATOR                                         1.861.811.00
                          1  80   3  10C                          PDM DEMODULATOR 1                                     1.861.812.00
                          1  80   4   6C                          PDM DEMODULATOR 2                                     1.861.812.00
                          1  80  12   9                           RACK-CAGE             (25 PIN D-SUB)
                          2   1   3   9                           BACKPANEL RACK          (D-SUB 25P)                   1.861.895.00
                          2   1   5   5C                          WRITE AMPLIFIER                                       1.861.803.00
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WRITR2                    1  73   1   9                           BOX-RACK 1 (RACK)     (25 PIN D-SUB)                  1.861.583.00
                          1  80  12   7                           RACK-CAGE             (25 PIN D-SUB)
                          1  80  14   9                           BOX-RACK 1 TO REAR PANEL TD
                          2   1   3   7                           BACKPANEL RACK          (D-SUB 25P)                   1.861.895.00
                          2   1   5   3C                          WRITE AMPLIFIER                                       1.861.803.00
                          4   1  12   9B                          RT/TC CODEC                                           1.861.861.00
                          4   1  17   9                           CONNECTOR 2        (BACKPANEL RACK 1)
                          4   1  50   9                           BOX-RACK 1 CONNECTOR         (CABLE)
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* WILLI STUDER AG * SIGNAL WIRE LIST * 86/12/08 * 10:54 * PAGE 192 *

* 1.861.022.00 D820X PCM RECORDER * 86/08/27 - 00 *

SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
WRSYO			1	73	3	17				BOX-RACK 3 (CAGE) (25 PIN D-SUB)		1.861.583.00
			2	1	1	17				REARPANEL TO (BOX) (D-SUB 25P)		1.861.895.00
			2	1	5	17A				WRITE AMPLIFIER		1.861.803.00
			4	1	10	9A				TRANSFORMATTER		1.861.859.00
			4	1	18	17				CONNECTOR 3 (BACKPANEL RACK 3)		
			4	1	52	17				BOX-RACK 3 CONNECTOR (CABLE)		
WRTOUT1			2	2	1	1				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	1				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT10			2	2	1	19				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	19				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT11			2	2	1	23				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	23				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT12			2	2	1	25				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	25				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT2			2	2	1	3				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	3				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT3			2	2	1	5				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	5				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT4			2	2	1	7				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	7				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT5			2	2	1	9				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	9				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT6			2	2	1	11				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	11				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT7			2	2	1	13				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	13				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT8			2	2	1	15				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	15				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTOUT9			2	2	1	17				HEADBLOCK WRITE (P4) (D-SUB 25P)		1.861.803.00
			5	2	1	17				HEADBLOCK CONNECTOR WRITE (P4)		1.116.861.10
WRTR1			1	73	1	21				BOX-RACK 1 (RACK) (25 PIN D-SUB)		1.861.583.00
			1	80	12	18				RACK-CAGE (25 PIN D-SUB)		
			1	80	14	21				BOX-RACK 1 TO REAR PANEL TO		
			2	1	3	18				BACKPANEL RACK (D-SUB 25P)		1.861.895.00
			2	1	5	2A				WRITE AMPLIFIER		1.861.803.00
			4	1	12	11A				RT/TC CODEC		1.861.861.00
			4	1	17	21				CONNECTOR 2 (BACKPANEL RACK 1)		
			4	1	50	21				BOX-RACK 1 CONNECTOR (CABLE)		
WRTR10			2	1	4	9A				DETECTOR		1.861.804.00
			2	1	5	9C				WRITE AMPLIFIER		1.861.803.00

* WILLI STUDER AG * SIGNAL WIRE LIST * 86/12/08 * 10:54 * PAGE 193 *

* 1.861.022.00 D820X PCM RECORDER * 86/08/27 - 00 *

SIGNAL NAME	COLOR	MI	ASY	GRP	ELM	PNT	S	LV	TYPE	DESCRIPTION OF ELEMENT	REMARK	ELEMENT NR.
WRTR11			1	80	1	6A				CUE/PC DELAY		1.861.816.00
			1	80	2	4A				PDM MODULATOR		1.861.811.00
			1	80	3	6A				PDM DEMODULATOR 1		1.861.812.00
			1	80	12	20				RACK-CAGE (25 PIN D-SUB)		
			2	1	3	20				BACKPANEL RACK (D-SUB 25P)		1.861.895.00
			2	1	5	4A				WRITE AMPLIFIER		1.861.803.00
WRTR12			1	80	2	5A				PDM MODULATOR		1.861.811.00
			1	80	3	10A				PDM DEMODULATOR 1		1.861.812.00
			1	80	4	6A				PDM DEMODULATOR 2		1.861.812.00
			1	80	12	21				RACK-CAGE (25 PIN D-SUB)		
			2	1	3	21				BACKPANEL RACK (D-SUB 25P)		1.861.895.00
			2	1	5	5A				WRITE AMPLIFIER		1.861.803.00
WRTR2			1	73	1	22				BOX-RACK 1 (RACK) (25 PIN D-SUB)		1.861.583.00
			1	80	12	19				RACK-CAGE (25 PIN D-SUB)		
			1	80	14	22				BOX-RACK 1 TO REAR PANEL TO		
			2	1	3	19				BACKPANEL RACK (D-SUB 25P)		1.861.895.00
			2	1	5	3A				WRITE AMPLIFIER		1.861.803.00
			4	1	12	9A				RT/TC CODEC		1.861.861.00
			4	1	17	22				CONNECTOR 2 (BACKPANEL RACK 1)		
			4	1	50	22				BOX-RACK 1 CONNECTOR (CABLE)		
WRTR3			2	1	4	6C				DETECTOR		1.861.804.00
			2	1	5	6A				WRITE AMPLIFIER		1.861.803.00
WRTR4			2	1	4	6A				DETECTOR		1.861.804.00
			2	1	5	6C				WRITE AMPLIFIER		1.861.803.00
WRTR5			2	1	4	7C				DETECTOR		1.861.804.00
			2	1	5	7A				WRITE AMPLIFIER		1.861.803.00
WRTR6			2	1	4	7A				DETECTOR		1.861.804.00
			2	1	5	7C				WRITE AMPLIFIER		1.861.803.00
WRTR7			2	1	4	8C				DETECTOR		1.861.804.00
			2	1	5	8A				WRITE AMPLIFIER		1.861.803.00
WRTR8			2	1	4	8A				DETECTOR		1.861.804.00
			2	1	5	8C				WRITE AMPLIFIER		1.861.803.00
WRTR9			2	1	4	9C				DETECTOR		1.861.804.00
			2	1	5	9A				WRITE AMPLIFIER		1.861.803.00
W0			4	1	10	14A				TRANSFORMATTER		1.861.859.00
W1			4	1	10	14B				TRANSFORMATTER		1.861.859.00
C.0 VCU			11	20	15	22				DISPLAY DRIVER P15		
			11	20	15	24				DISPLAY DRIVER P15		
			11	20	15	26				DISPLAY DRIVER P15		
			11	20	15	28				DISPLAY DRIVER P15		
			11	20	15	30				DISPLAY DRIVER P15		
			11	20	15	32				DISPLAY DRIVER P15		
			11	20	15	34				DISPLAY DRIVER P15		

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*****************************************************************************************************************
*    WILLI STUDER AG   *     S  I  G  N  A  L     W  I  R  E     L  I  S  T            *  86/12/08  *  10:54  *   P A G E 194   *
*****************************************************************************************************************
*               1.861.022.00  D820X PCM RECORDER                                      *  86/08/27 - 00                      *
*****************************************************************************************************************

SIGNAL NAME   COLOR  MI  ASY GRP ELM PNT  S  LV  TYPE            DESCRIPTION OF ELEMENT                  REMARK     ELEMENT NR.
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<<-- CONT.OF              11  20  15  36                         DISPLAY DRIVER                    P15
0.0 VCU                   11  20  15  38                         DISPLAY DRIVER                    P15
                          11  20  15  40                         DISPLAY DRIVER                    P15
                          11  20  16  16                         PARALLEL REMOTE CONTROL           P16
                          11  20  16  22                         PARALLEL REMOTE CONTROL           P16
                          11  20  16  26                         PARALLEL REMOTE CONTROL           P16
                          11  20  16  28                         PARALLEL REMOTE CONTROL           P16
                          11  20  16  30                         PARALLEL REMOTE CONTROL           P16
                          11  20  16  32                         PARALLEL REMOTE CONTROL           P16
                          11  20  16  34                         PARALLEL REMOTE CONTROL           P16
                          11  20  16  36                         PARALLEL REMOTE CONTROL           P16
                          11  20  16  38                         PARALLEL REMOTE CONTROL           P16
                          11  20  16  40                         PARALLEL REMOTE CONTROL           P16
                          11  27   2  16                         FROM GRP20. ELM16                 P02
                          11  27   2  22                         FROM GRP20. ELM16                 P02
                          11  27   2  26                         FROM GRP20. ELM16                 P02
                          11  27   2  28                         FROM GRP20. ELM16                 P02
                          11  27   2  30                         FROM GRP20. ELM16                 P02
                          11  27   2  32                         FROM GRP20. ELM16                 P02
                          11  27   2  34                         FROM GRP20. ELM16                 P02
                          11  27   2  36                         FROM GRP20. ELM16                 P02
                          11  27   2  38                         FROM GRP20. ELM16                 P02
                          11  27   2  40                         FROM GRP20. ELM16                 P02
                          11  50   1  22                         FROM GRP20. ELM15                 P01
                          11  50   1  24                         FROM GRP20. ELM15                 P01
                          11  50   1  26                         FROM GRP20. ELM15                 P01
                          11  50   1  28                         FROM GRP20. ELM15                 P01
                          11  50   1  30                         FROM GRP20. ELM15                 P01
                          11  50   1  32                         FROM GRP20. ELM15                 P01
                          11  50   1  34                         FROM GRP20. ELM15                 P01
                          11  50   1  36                         FROM GRP20. ELM15                 P01
                          11  50   1  38                         FROM GRP20. ELM15                 P01
                          11  50   1  40                         FROM GRP20. ELM15                 P01
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0CAPMOT       4            1  79   1  23                         POWER CONNECTOR  (24 PIN MOLEX FEM)
              4            1  79   2  23                         POWER CONNECTOR (24 PIN MOLEX MALE)
              4           11  11   3   4         L               RECTIFIER                        DZ03                  70.01.0231
              4           11  12   4   2         L               CAPACITOR                         C04                  59.26.7103
              4           11  12   5   9         M               CONNECTOR TO GRP32. ELM01         P01
              4           11  19   1  23         F               FROM GRP32. ELM02                 J01
              4           11  19   2  23         M               TO GRP21. ELM02                   P01
              4           11  20  62   8         L               WIRE FIELD
              4           11  20  62   9         L               WIRE FIELD
              4           11  20  70  23         F               FROM GRP21. ELM01                 J13
              4           11  20  71   1         F               TO CAPSTAN MOTOR DRIVE AMP.
                          11  32   1   9         F               INPUT FROM GRP12. ELM05           J01
                          11  32   2  23         M               OUTPUT                            P01
                          11  39   3   1         M                 FROM GRP20. ELM71               P03
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2ECCLK                     4   1   5  25C                        CAPRO INTERFACE                                        1.861.854.00
                           4   1  13  17A                        TIMING + TEST                                          1.861.862.00
=================================================================================================================
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./.